

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24173  
Date: 3/19/10      Reviewer: C Ricardi

Chemist Review     Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

(\*) All samples re-extracted due to lost MB. Based on PT the first batch is reported.

## 2. Holding Time and Sample Preservation/Collection

3 day extract

3 day Analysis

Missed extraction HT sample 24173-4 2  
24173-9 2  
24173-10 2  
24173-11 2  
24173-12 2  
-13 2  
-14 2  
-15 2

## 3. QC Blanks Acetaldehyde -30,4 MBK - Batch 80315

All ND, No Qual

## 4. Laboratory Control Sample Review (80-120%)

All within limits

## 5. Field Duplicate Precision (30/50)

NA

## 6. Lab Duplicate Precision (20/35)

NA

see LCSD, MSD

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

All within limits

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

## CHEMIST REVIEW-VALIDATION CHECKLIST

### FULL VALIDATION CHECKS

Ten Percent of data sets will have full validation checks completed during chemist review.

Initial Calibration

Continuing Calibration Verification

#### Transcription and Calculation Checks

Instrument Calibration

See Excel Linear Regression Sheet  
Checks Marked on Raw Data

Blank Review – raw data/chromatogram check

Laboratory Control Sample

Matrix Spike

Field Sample Results

Surrogate Recovery N/A

Sample 360-24173-8 was analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/25/2009.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved.

No difficulties were encountered during the anions analysis.

All quality control parameters were within the acceptance limits.

#### **CARBONYL COMPOUNDS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) (soils)**

Samples 360-24173-4 through 360-24173-6 and 360-24173-9 through 360-24173-15 were analyzed for Carbonyl Compounds by High Performance Liquid Chromatography (HPLC) in accordance with EPA SW846 8315A. The samples were prepared on 08/19/2009, 08/23/2009 and 09/01/2009 and analyzed on 08/19/2009, 08/24/2009 and 09/03/2009.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved with the exception of:

Acetaldehyde was detected in method blank MB 640-60315/1-A at a level exceeding the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details. This blank is associated with samples 360-24173-[4,5,6]

Method(s) 8315A: 8315A: The method blank for batch 59772 was lost after extraction. Due to a lab scheduling error, the re-extraction (batch 60315) was not performed until after the laboratory designated seven day holding time had expired (method 8315A does not designate a holding time for soils). Both sets of data are reported for review.

*No other difficulties were encountered during the HPLC analyses.*

*Based on PT report the first  
Batch within HT - CM  
5/12/16*

*All other quality control parameters were within the acceptance limits.*

#### **CARBONYL COMPOUNDS (HPLC) (water)**

Sample 360-24173-8 was analyzed for Carbonyl Compounds (HPLC) in accordance with EPA method SW846 8315A. The samples were prepared and analyzed on 08/20/2009.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved.

No difficulties were encountered during the Carbonyl Compounds (HPLC) analysis.

All quality control parameters were within the acceptance limits.

#### **AMMONIA (soils)**

Samples 360-24173-1 through 360-24173-6 and 360-24173-9 through 360-24173-17 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 08/19/2009 and 08/26/2009.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved with the exception of:

Ammonia exceeded the MS/MSD rpd limit for the matrix spike duplicate of sample 360-24173-17. Refer to the QC report for details.

*No other difficulties were encountered during the ammonia analyses.*

*All other quality control parameters were within the acceptance limits.*

#### **AMMONIA (water)**

## SUMMARY OUTPUT

1 Calib

8/19

Regression Statistics

Multiple R	0.99994
R Square	0.99988
Adjusted R	0.999821
Standard E	0.147442
Observatio	4

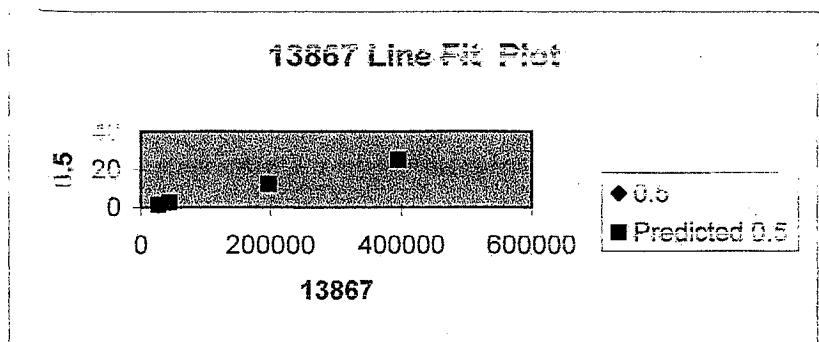
## ANOVA

	df	SS	MS	F	ignificance F
Regressior	1	363.6284	363.6284	16726.8	5.98E-05
Residual	2	0.043479	0.021739		
Total	3	363.6719			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	lower 95.0%	upper 95.0%
Intercept	-0.407388	0.110928	-3.672554	0.066799	-0.884672	0.069896	-0.884672	0.069896
13867	6.46E-05	4.99E-07	129.3321	5.98E-05	6.24E-05	6.67E-05	6.24E-05	6.67E-05

## RESIDUAL OUTPUT

Observation	predicted	Residuals
1	1.363809	-0.113809
2	2.468078	0.031922
3	12.3447	0.155299
4	25.07341	-0.073412



6

SUMMARY OUTPUT

1 Calo

8/23

Regression Statistics	
Multiple R	0.999818
R Square	0.999636
Adjusted R	0.999454
Standard E	0.257221
Observatio	4

ANOVA

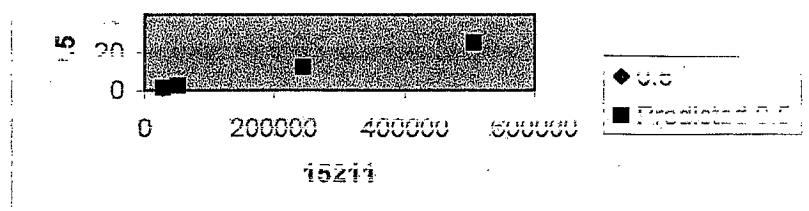
	df	SS	MS	F	Significance F
Regression	1	363.5395	363.5395	5494.627	0.000182
Residual	2	0.132325	0.066163		
Total	3	363.6719			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.005467	0.189407	0.028863	0.979595	-0.809486	0.820419	-0.809486	0.820419
15211	4.97E-05	6.71E-07	74.12575	0.000182	4.69E-05	5.26E-05	4.69E-05	5.26E-05

RESIDUAL OUTPUT

Observation	predicted	Residuals
1	1.400719	-0.150719
2	2.514194	-0.014194
3	12.19867	0.301328
4	25.13642	-0.136416

15211 Line 52 - 1521



55

STATISTICAL OUTPUT

1 Calib  
9/2

Regression Statistics	
Multinom R	0.999993
R Square	0.999986
Adjusted R	0.999979
Standard E	0.050876
Observatio	4

### ANOVA

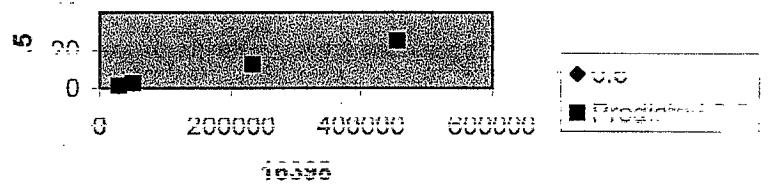
	df	SS	MS	F	Significance F
Regression	1	363.6667	363.6667	140487.6	7.12E-66
Residual	2	0.005177	0.002589		
Total	3	363.6719			

Coefficient	standard Err	t Stat	P-value	Lower 95%	Upper 95%	lower 95.0%	upper 95.0%	
Intercept	-0.351552	0.038166	-9.211172	0.011582	-0.515767	-0.187338	-0.515767	-0.187338
16398	5.56E-05	1.48E-07	374.8168	7.12E-06	5.5E-05	5.62E-05	5.5E-05	5.62E-05

### RESIDUAL OUTPUT

Observation	predicted O.	Residuals
1	1.270244	-0.020244
2	2.453001	0.046999
3	12.54655	-0.046548
4	24.98021	0.019794

16398 Line 600 v. 11



8/19/09 Icalib

conc.	area	a	b	Sample ID
0.5		13867		
1.25		27426		
2.5		44525		
12.5		197459		
25		394556		
2.47		44525	-0.407388	0.0000646 TEST
2.30		41919	-0.407388	0.0000646 CCV 8-19
3.91		66759	-0.407388	0.0000646 LCS 8-19
4.78		80246	-0.407388	0.0000646 MS 8-19 24173-4
0.90		20259	-0.407388	0.0000646 24173-4

Formaldehyde  
LCS

Ch  
3/19/10

8/24/09 Icalib

0.5		15211		
1.25		28046		
2.5		50428		
12.5		245096		
25		505158		
2.51		50428	0.005467	0.0000497 TEST
2.47		49502	0.005467	0.0000497 CCV 8-24
3.50		70335	0.005467	0.0000497 LCS 8-24
4.82		96966	0.005467	0.0000497 MS 8-24 24173-11
1.12		22496	0.005467	0.0000497 24173-9
1.71		34320	0.005467	0.0000497 24173-10

9/2/09 Icalib

0.5		16398		
1.25		29175		
2.5		50452		
12.5		232028		
25		455701		
2.45		50452	-0.352	0.0000556 TEST
2.37		49042	-0.352	0.0000556 CCV 9-3
3.52		69564	-0.352	0.0000556 LCS 9-3
1.47		32779	-0.352	0.0000556 24173-1 RE
2.45		50452	-0.352	0.0000556 24173-10
2.45		50452	-0.352	0.0000556

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

**Client Sample ID:** OC-SB-416-0.0/1.0-XXX  
**Lab Sample ID:** 360-24173-4

Date Sampled: 08/18/2009 1035  
 Date Received: 08/18/2009 1900  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Surrogate</b>						
2-Fluorophenol	50	%		30 - 130		
Nitrobenzene-d5	74	%		30 - 130		
Phenol-d5	56	%		30 - 130		
Terphenyl-d14	77	%		30 - 130		
<b>Method: 8315A</b>			Date Analyzed:	08/19/2009 1423		
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	08/19/2009 1040		
Formaldehyde	190	ug/Kg	80	100	1.0	
Acetaldehyde	ND	ug/Kg	30	200	1.0	
<b>Method: 8315A Run Type: RE</b>			Date Analyzed:	09/03/2009 1143		
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	09/01/2009 0802		
Formaldehyde	290	ug/Kg	79	100	1.0	
Acetaldehyde	34	ug/Kg	29	200	1.0	
<b>Method: LC65</b>			Date Analyzed:	08/24/2009 1251		
<b>Prep Method: LC65</b>			Date Prepared:	08/19/2009 1030		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0	
<b>Method: 6010B</b>			Date Analyzed:	08/20/2009 1503		
<b>Prep Method: 3050B</b>			Date Prepared:	08/20/2009 0912		
Aluminum	4200	mg/Kg	0.71	2.7	1.0	
Arsenic	4.8	mg/Kg	0.10	1.1	1.0	
Barium	7.9	mg/Kg	0.071	0.55	1.0	
Beryllium	0.17	J	mg/Kg	0.027	0.22	1.0
Cadmium	0.077	J B	mg/Kg	0.0077	0.22	1.0
Calcium	510	B	mg/Kg	2.7	22	1.0
Chromium	7.5	mg/Kg	0.073	0.55	1.0	
Cobalt	2.1	mg/Kg	0.071	0.55	1.0	
Copper	2.7	B	mg/Kg	0.071	1.1	1.0
Iron	5200	B	mg/Kg	0.87	5.5	1.0
Lead	1.4	mg/Kg	0.062	0.55	1.0	
Magnesium	1200	B	mg/Kg	0.55	11	1.0
Manganese	46	mg/Kg	0.073	1.1	1.0	
Nickel	5.4	B	mg/Kg	0.071	1.1	1.0
Potassium	750	mg/Kg	34	220	1.0	
Selenium	ND	mg/Kg	0.26	0.55	1.0	
Silver	ND	mg/Kg	0.055	0.55	1.0	
Sodium	120	mg/Kg	14	110	1.0	
Thallium	ND	mg/Kg	0.079	1.1	1.0	
Vanadium	7.3	mg/Kg	0.071	1.1	1.0	
Zinc	9.0	mg/Kg	0.64	2.7	1.0	

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

Client Sample ID: OC-SB-416-13/14-XXX  
 Lab Sample ID: 360-24173-5

Date Sampled: 08/18/2009 1105  
 Date Received: 08/18/2009 1900  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Surrogate						Acceptance Limits
Toluene-d8 (Surr)	93		%	70 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Unknown	4.6	T J	ug/Kg		8.66	1.0
Unknown	18	T J	ug/Kg		5.02	1.0
2-Pentanone, 4,4-dimethyl-	11	T J N	ug/Kg	590-50-1	7.94	1.0
<b>Method:</b> 8315A				Date Analyzed:	08/19/2009 1459	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	08/19/2009 1040	
Formaldehyde	400		ug/Kg	84	110	1.0
Acetaldehyde	ND		ug/Kg	31	210	1.0
<b>Method:</b> 8315A Run Type: RE				Date Analyzed:	09/03/2009 1154	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/01/2009 0802	
Formaldehyde	830	H	ug/Kg	84	110	1.0
Acetaldehyde	37	J H B	ug/Kg	31	210	1.0

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

**Client Sample ID:** OC-SB-416-8.0/9.0-XXX  
**Lab Sample ID:** 360-24173-6

Date Sampled: 08/18/2009 1045  
 Date Received: 08/18/2009 1900  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier			Unit	MDL	RL	Dilution
Surrogate	Acceptance Limits						
2,4,6-Tribromophenol	0	X	%		30 - 130		
Nitrobenzene-d5	66		%		30 - 130		
Phenol-d5	70		%		30 - 130		
2-Fluorophenol	75		%		30 - 130		
2-Fluorobiphenyl	70		%		30 - 130		
Terphenyl-d14	59		%		30 - 130		
<b>Method:</b> 8270C LL <b>Run Type:</b> DL2				Date Analyzed:	09/01/2009 0405		
<b>Prep Method:</b> 3546				Date Prepared:	08/20/2009 1253		
Bis(2-ethylhexyl) phthalate	35000		ug/Kg	530	1800	50	
Surrogate	Acceptance Limits						
2,4,6-Tribromophenol	0	D X	%		30 - 130		
Nitrobenzene-d5	0	D X	%		30 - 130		
Phenol-d5	0	D X	%		30 - 130		
2-Fluorophenol	0	D X	%		30 - 130		
2-Fluorobiphenyl	0	D X	%		30 - 130		
Terphenyl-d14	0	D X	%		30 - 130		
<b>Method:</b> 8270C LL <b>Run Type:</b> DL3				Date Analyzed:	09/08/2009 1642		
<b>Prep Method:</b> 3546				Date Prepared:	08/20/2009 1253		
Diphenylamine	100		ug/Kg	2.1	35	1.0	
<b>Method:</b> 8270C LL				Date Analyzed:	09/01/2009 2125		
<b>Prep Method:</b> 3550B				Date Prepared:	08/27/2009 1643		
N-Nitrosodimethylamine	ND		ug/Kg	1.2	5.3	1.0	
Surrogate	Acceptance Limits						
2,4,6-Tribromophenol	77		%		30 - 130		
2-Fluorobiphenyl	70		%		30 - 130		
2-Fluorophenol	70		%		30 - 130		
Nitrobenzene-d5	84		%		30 - 130		
Phenol-d5	74		%		30 - 130		
Terphenyl-d14	704	X	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	08/19/2009 1510		
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	08/19/2009 1040		
Formaldehyde	350		ug/Kg	83	110	1.0	
Acetaldehyde	ND		ug/Kg	31	210	1.0	
<b>Method:</b> 8315A <b>Run Type:</b> RE				Date Analyzed:	09/03/2009 1206		
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/01/2009 0802		
Formaldehyde	460	H	ug/Kg	81	100	1.0	

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

Client Sample ID: OC-EBK-001  
 Lab Sample ID: 360-24173-8

Date Sampled: 08/18/2009 0830  
 Date Received: 08/18/2009 1900  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Surrogate</b>						
2,4,6-Tribromophenol	82	%		15 - 110		
2-Fluorobiphenyl	72	%		30 - 130		
2-Fluorophenol	25	%		15 - 110		
Nitrobenzene-d5	69	%		30 - 130		
Phenol-d5	15	%		15 - 110		
Terphenyl-d14	82	%		30 - 130		
2-Fluorobiphenyl	72	%		30 - 130		
2-Fluorophenol	25	%		15 - 110		
Nitrobenzene-d5	69	%		30 - 130		
Phenol-d5	15	%		15 - 110		
Terphenyl-d14	82	%		30 - 130		
2,4,6-Tribromophenol	82	%		15 - 110		
<b>Tentatively Identified Compounds</b>						
Benzene	0.34	T J N	ug/L	71-43-2	4.88	1.0
Heptanoic acid	1.5	T J N	ug/L	111-14-8	8.88	1.0
Octanoic Acid	3.5	T J N	ug/L	124-7-2	9.39	1.0
<b>Method: 8315A</b>			Date Analyzed:	08/20/2009 1334		
<b>Prep Method: 8315_W_Prep</b>			Date Prepared:	08/20/2009 0800		
Formaldehyde	ND		ug/L	5.0	50	1.0
Acetaldehyde	ND		ug/L	10	100	1.0
<b>Method: LC65</b>			Date Analyzed:	08/24/2009 1239		
<b>Prep Method: LC65</b>			Date Prepared:	08/20/2009 0730		
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10	1.0
<b>Method: 6010B</b>			Date Analyzed:	08/21/2009 1548		
<b>Prep Method: 3010A</b>			Date Prepared:	08/21/2009 0709		
Aluminum	ND		ug/L	39	100	1.0
Antimony	ND		ug/L	2.9	6.0	1.0
Barium	3.3	J	ug/L	2.0	10	1.0
Arsenic	ND		ug/L	2.3	10	1.0
Beryllium	ND		ug/L	0.20	1.0	1.0
Cadmium	ND		ug/L	0.20	1.0	1.0
Calcium	94	J	ug/L	59	400	1.0
Chromium	ND		ug/L	1.3	5.0	1.0
Cobalt	ND		ug/L	2.0	10	1.0
Copper	55		ug/L	1.7	10	1.0
Iron	ND		ug/L	34	100	1.0
Lead	12		ug/L	1.3	5.0	1.0

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

Client Sample ID: OC-SB-412-0.0/1.0-XXX  
 Lab Sample ID: 360-24173-9

Date Sampled: 08/18/2009 1245  
 Date Received: 08/19/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: 8315A</b>		Date Analyzed:	08/24/2009 1343		
<b>Prep Method: 8315_S_Prep</b>		Date Prepared:	08/23/2009 1546		
Formaldehyde	180	ug/Kg	79	100	1.0
Acetaldehyde	ND	ug/Kg	29	200	1.0
<b>Method: LC65</b>		Date Analyzed:	08/24/2009 1818		
<b>Prep Method: LC65</b>		Date Prepared:	08/23/2009 1547		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	17	96	1.0
<b>Method: 6010B</b>		Date Analyzed:	08/20/2009 1509		
<b>Prep Method: 3050B</b>		Date Prepared:	08/20/2009 0912		
Aluminum	3500	mg/Kg	0.74	2.9	1.0
Arsenic	3.3	mg/Kg	0.10	1.1	1.0
Barium	5.5	mg/Kg	0.074	0.57	1.0
Beryllium	0.15	J	0.029	0.23	1.0
Cadmium	0.066	J B	0.0080	0.23	1.0
Calcium	540	B	2.9	23	1.0
Chromium	22	mg/Kg	0.076	0.57	1.0
Cobalt	1.9	mg/Kg	0.074	0.57	1.0
Copper	2.7	B	0.074	1.1	1.0
Iron	4200	B	0.91	5.7	1.0
Lead	1.4	mg/Kg	0.065	0.57	1.0
Magnesium	850	B	0.57	11	1.0
Manganese	42	mg/Kg	0.076	1.1	1.0
Nickel	4.3	B	0.074	1.1	1.0
Potassium	530	mg/Kg	36	230	1.0
Selenium	ND	mg/Kg	0.27	0.57	1.0
Silver	0.22	J	0.057	0.57	1.0
Sodium	86	J	15	110	1.0
Thallium	ND	mg/Kg	0.083	1.1	1.0
Vanadium	5.2	mg/Kg	0.074	1.1	1.0
Zinc	6.9	mg/Kg	0.67	2.9	1.0
Tin	8.8	B	0.37	5.7	1.0
<b>Method: 6010B</b>		Date Analyzed:	08/21/2009 1149		
<b>Prep Method: 3050B</b>		Date Prepared:	08/20/2009 0912		
Antimony	ND	mg/Kg	0.21	0.57	1.0
<b>Method: 7471A</b>		Date Analyzed:	08/21/2009 1438		
<b>Prep Method: 7471A</b>		Date Prepared:	08/21/2009 1047		
Mercury	ND	mg/Kg	0.024	0.13	1.0

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Job Number: 360-24173-1  
Sdg Number: OCRI-01

Client Sample ID: OC-SB-412-12/13-XXX  
Lab Sample ID: 360-24173-10

Date Sampled: 08/18/2009 1310  
Date Received: 08/19/2009 1700  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/24/2009 1354	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	320	ug/Kg	82	100	1.0
Acetaldehyde	ND	ug/Kg	30	210	1.0

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

**Client Sample ID:** OC-SB-412-6.0/7.0-XXX  
**Lab Sample ID:** 360-24173-11

Date Sampled: 08/18/2009 1255  
 Date Received: 08/19/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Method:</b> 8315A		Date Analyzed:	08/24/2009 1406			
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	08/23/2009 1546			
Formaldehyde	380	ug/Kg	89	110	1.0	
Acetaldehyde	ND	ug/Kg	33	230	1.0	
<b>Method:</b> LC65		Date Analyzed:	08/24/2009 1844			
<b>Prep Method:</b> LC65		Date Prepared:	08/23/2009 1547			
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0	
<b>Method:</b> 6010B		Date Analyzed:	08/20/2009 1511			
<b>Prep Method:</b> 3050B		Date Prepared:	08/20/2009 0912			
Aluminum	3800	mg/Kg	0.82	3.1	1.0	
Arsenic	3.0	mg/Kg	0.11	1.3	1.0	
Barium	8.2	mg/Kg	0.082	0.63	1.0	
Beryllium	0.095	J	mg/Kg	0.031	0.25	1.0
Cadmium	0.081	J B	mg/Kg	0.0088	0.25	1.0
Calcium	630	B	mg/Kg	3.1	25	1.0
Chromium	21	mg/Kg	0.084	0.63	1.0	
Cobalt	1.8	mg/Kg	0.082	0.63	1.0	
Copper	4.9	B	mg/Kg	0.082	1.3	1.0
Iron	5000	B	mg/Kg	1.0	6.3	1.0
Lead	18	mg/Kg	0.072	0.63	1.0	
Magnesium	1100	B	mg/Kg	0.63	13	1.0
Manganese	40	mg/Kg	0.084	1.3	1.0	
Nickel	4.7	B	mg/Kg	0.082	1.3	1.0
Potassium	550	mg/Kg	39	250	1.0	
Selenium	ND	mg/Kg	0.29	0.63	1.0	
Silver	0.28	J	mg/Kg	0.063	0.63	1.0
Sodium	ND	mg/Kg	16	130	1.0	
Thallium	ND	mg/Kg	0.091	1.3	1.0	
Vanadium	6.8	mg/Kg	0.082	1.3	1.0	
Zinc	8.2	mg/Kg	0.74	3.1	1.0	
Tin	8.7	B	mg/Kg	0.40	6.3	1.0
<b>Method:</b> 6010B		Date Analyzed:	08/21/2009 1152			
<b>Prep Method:</b> 3050B		Date Prepared:	08/20/2009 0912			
Antimony	ND	mg/Kg	0.23	0.63	1.0	
<b>Method:</b> 7471A		Date Analyzed:	08/21/2009 1444			
<b>Prep Method:</b> 7471A		Date Prepared:	08/21/2009 1047			
Mercury	ND	mg/Kg	0.033	0.18	1.0	

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

**Client Sample ID:** OC-SB-420-0.0/1.0-XXX  
**Lab Sample ID:** 360-24173-12

Date Sampled: 08/18/2009 1555  
 Date Received: 08/19/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Surrogate</b>					Acceptance Limits
Terphenyl-d14	57	%		30 - 130	
<b>Method: 8270C LL Run Type: DL2</b>					Date Analyzed: 09/01/2009 0513
<b>Prep Method: 3546</b>					Date Prepared: 08/20/2009 1253
Phenol	32000	ug/Kg	1000	3400	100
<b>Surrogate</b>					Acceptance Limits
2,4,6-Tribromophenol	0	D X	%	30 - 130	
Nitrobenzene-d5	0	D X	%	30 - 130	
Phenol-d5	0	D X	%	30 - 130	
2-Fluorophenol	0	D X	%	30 - 130	
2-Fluorobiphenyl	0	D X	%	30 - 130	
Terphenyl-d14	0	D X	%	30 - 130	
<b>Method: 8270C LL</b>					Date Analyzed: 09/01/2009 2325
<b>Prep Method: 3550B</b>					Date Prepared: 08/27/2009 1643
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
<b>Surrogate</b>					Acceptance Limits
2,4,6-Tribromophenol	1	X	%	30 - 130	
2-Fluorobiphenyl	69		%	30 - 130	
2-Fluorophenol	0	X	%	30 - 130	
Nitrobenzene-d5	166	X	%	30 - 130	
Phenol-d5	0	X	%	30 - 130	
Terphenyl-d14	92		%	30 - 130	
<b>Method: 8315A</b>					Date Analyzed: 08/24/2009 1442
<b>Prep Method: 8315_S_Prep</b>					Date Prepared: 08/23/2009 1546
Formaldehyde	160	ug/Kg	79	100	1.0
Acetaldehyde	ND	ug/Kg	30	200	1.0
<b>Method: LC65</b>					Date Analyzed: 08/29/2009 1434
<b>Prep Method: LC65</b>					Date Prepared: 08/23/2009 1547
Phthalic Acid/Phthalic anhydride	29000	ug/Kg	900	5000	50
<b>Method: LC65</b>					Date Analyzed: 08/29/2009 1507
<b>Prep Method: LC65</b>					Date Prepared: 08/23/2009 1547
Phthalic Acid/Phthalic anhydride	26000	ug/Kg	900	5000	50
<b>Method: 6010B</b>					Date Analyzed: 08/20/2009 1514
<b>Prep Method: 3050B</b>					Date Prepared: 08/20/2009 0912
Aluminum	5700	mg/Kg	0.74	2.9	1.0
Arsenic	5.0	mg/Kg	0.10	1.1	1.0

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Job Number: 360-24173-1  
Sdg Number: OCRI-01

Client Sample ID: OC-SB-420-12/14-XXX  
Lab Sample ID: 360-24173-13

Date Sampled: 08/18/2009 1625  
Date Received: 08/19/2009 1700  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate	Acceptance Limits				
Toluene-d8 (Surr)	94	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Tentatively Identified Compound	None	ug/Kg		0.00	1.0
Method: 8315A			Date Analyzed:	08/24/2009 1453	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	390	ug/Kg	78	100	1.0
Acetaldehyde	ND	ug/Kg	29	200	1.0

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Client Sample ID: OC-SB-420-6.5/8.5-XXX  
 Lab Sample ID: 360-24173-14

Date Sampled: 08/18/2009 1610  
 Date Received: 08/19/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Surrogate</b>						
2,4,6-Tribromophenol	0	DX	%	30 - 130		
Nitrobenzene-d5	0	DX	%	30 - 130		
Phenol-d5	0	DX	%	30 - 130		
2-Fluorophenol	0	DX	%	30 - 130		
2-Fluorobiphenyl	0	DX	%	30 - 130		
Terphenyl-d14	0	DX	%	30 - 130		
<b>Method:</b> 8270C LL <b>Run Type:</b> DL3			Date Analyzed:	09/08/2009 1750		
<b>Prep Method:</b> 3546			Date Prepared:	08/20/2009 1253		
Diphenylamine	38	ug/Kg	2.1	35	1.0	
<b>Method:</b> 8270C LL			Date Analyzed:	09/02/2009 0024		
<b>Prep Method:</b> 3550B			Date Prepared:	08/27/2009 1643		
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.4	1.0	
<b>Surrogate</b>						
2,4,6-Tribromophenol	75	%	30 - 130			
2-Fluorobiphenyl	70	%	30 - 130			
2-Fluorophenol	71	%	30 - 130			
Nitrobenzene-d5	81	%	30 - 130			
Phenol-d5	76	%	30 - 130			
Terphenyl-d14	285	X	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	08/24/2009 1505		
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/23/2009 1546		
Formaldehyde	160	ug/Kg	81	100	1.0	
Acetaldehyde	ND	ug/Kg	30	210	1.0	
<b>Method:</b> LC65			Date Analyzed:	08/24/2009 1948		
<b>Prep Method:</b> LC65			Date Prepared:	08/23/2009 1547		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0	
<b>Method:</b> 6010B			Date Analyzed:	08/20/2009 1517		
<b>Prep Method:</b> 3050B			Date Prepared:	08/20/2009 0912		
Aluminum	10000	mg/Kg	0.86	3.3	1.0	
Arsenic	2.9	mg/Kg	0.12	1.3	1.0	
Barium	47	mg/Kg	0.086	0.66	1.0	
Beryllium	0.35	mg/Kg	0.033	0.27	1.0	
Cadmium	0.27	B	mg/Kg	0.0093	0.27	1.0
Calcium	2600	B	mg/Kg	3.3	27	1.0
Chromium	18	mg/Kg	0.088	0.66	1.0	
Cobalt	10	mg/Kg	0.086	0.66	1.0	

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Job Number: 360-24173-1  
 Sdg Number: OCRI-01

Client Sample ID: OC-SB-423-0.0/1.0-XXX  
 Lab Sample ID: 360-24173-15

Date Sampled: 08/18/2009 1420  
 Date Received: 08/19/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Surrogate</b>						
2,4,6-Tribromophenol	79	%		30 - 130		
2-Fluorobiphenyl	65	%		30 - 130		
2-Fluorophenol	63	%		30 - 130		
Nitrobenzene-d5	72	%		30 - 130		
Phenol-d5	66	%		30 - 130		
Terphenyl-d14	82	%		30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	08/24/2009 1517		
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/23/2009 1546		
Formaldehyde	140	ug/Kg	80	100	1.0	
Acetaldehyde	ND	ug/Kg	30	210	1.0	
<b>Method:</b> 6010B			Date Analyzed:	08/20/2009 1520		
<b>Prep Method:</b> 3050B			Date Prepared:	08/20/2009 0912		
Aluminum	4100	mg/Kg	0.69	2.6	1.0	
Arsenic	4.3	mg/Kg	0.096	1.1	1.0	
Barium	8.3	mg/Kg	0.069	0.53	1.0	
Beryllium	0.17	J	mg/Kg	0.026	0.21	1.0
Cadmium	0.091	J B	mg/Kg	0.0074	0.21	1.0
Calcium	730	B	mg/Kg	2.6	21	1.0
Chromium	15	mg/Kg	0.070	0.53	1.0	
Cobalt	2.2	mg/Kg	0.069	0.53	1.0	
Copper	4.3	B	mg/Kg	0.069	1.1	1.0
Iron	5300	B	mg/Kg	0.84	5.3	1.0
Lead	2.8	mg/Kg	0.060	0.53	1.0	
Magnesium	1100	B	mg/Kg	0.53	11	1.0
Manganese	68	mg/Kg	0.071	1.1	1.0	
Nickel	4.9	B	mg/Kg	0.069	1.1	1.0
Potassium	580	mg/Kg	33	210	1.0	
Selenium	ND	mg/Kg	0.25	0.53	1.0	
Silver	0.087	J	mg/Kg	0.053	0.53	1.0
Sodium	20	J	mg/Kg	14	110	1.0
Thallium	0.11	J	mg/Kg	0.076	1.1	1.0
Vanadium	7.4	mg/Kg	0.069	1.1	1.0	
Zinc	9.9	mg/Kg	0.62	2.6	1.0	
Tin	5.8	B	mg/Kg	0.34	5.3	1.0
<b>Method:</b> 6010B			Date Analyzed:	08/21/2009 1206		
<b>Prep Method:</b> 3050B			Date Prepared:	08/20/2009 0912		
Antimony	ND	mg/Kg	0.19	0.53	1.0	
<b>Method:</b> 7471A			Date Analyzed:	08/21/2009 1449		

# Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

## QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Prep Batch: 640-59772</b>					
LCS 640-59772/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-59772/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-4MS	Matrix Spike	T	Solid	8315_S_Prep	
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	8315_S_Prep	
360-24173-5	OC-SB-416-13/14-XXX	T	Solid	8315_S_Prep	
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	8315_S_Prep	
<b>Prep Batch: 640-59774</b>					
LCS 640-59774/2-A	Lab Control Sample	T	Solid	LC65	
LCSD 640-59774/3-A	Lab Control Sample Duplicate	T	Solid	LC65	
MB 640-59774/1-A	Method Blank	T	Solid	LC65	
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	LC65	
360-24173-4MS	Matrix Spike	T	Solid	LC65	
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	LC65	
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	LC65	
<b>Prep Batch: 640-59827</b>					
LCS 640-59827/2-A	Lab Control Sample	T	Water	8315_W_Prep	
LCSD 640-59827/3-A	Lab Control Sample Duplicate	T	Water	8315_W_Prep	
MB 640-59827/1-A	Method Blank	T	Water	8315_W_Prep	
360-24173-8	OC-EBK-001	T	Water	8315_W_Prep	
<b>Prep Batch: 640-59843</b>					
LCS 640-59843/2-A	Lab Control Sample	T	Water	LC65	
LCSD 640-59843/3-A	Lab Control Sample Duplicate	T	Water	LC65	
MB 640-59843/1-A	Method Blank	T	Water	LC65	
360-24173-8	OC-EBK-001	T	Water	LC65	
<b>Analysis Batch: 640-59851</b>					
LCS 640-59772/2-A	Lab Control Sample	T	Solid	8315A	640-59772
LCSD 640-59772/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-59772
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	8315A	640-59772
360-24173-4MS	Matrix Spike	T	Solid	8315A	640-59772
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	8315A	640-59772
360-24173-5	OC-SB-416-13/14-XXX	T	Solid	8315A	640-59772
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	8315A	640-59772

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1

Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report			Prep Batch
		Basis	Client Matrix	Method	
<b>HPLC</b>					
<b>Prep Batch: 640-59857</b>					
LCS 640-59857/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-59857/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
MB 640-59857/1-A	Method Blank	T	Solid	8315_S_Prep	
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-10	OC-SB-412-12/13-XXX	T	Solid	8315_S_Prep	
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	8315_S_Prep	
360-24173-11MS	Matrix Spike	T	Solid	8315_S_Prep	
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	8315_S_Prep	
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-13	OC-SB-420-12/14-XXX	T	Solid	8315_S_Prep	
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	8315_S_Prep	
360-24173-15	OC-SB-423-0.0/1.0-XXX	T	Solid	8315_S_Prep	
<b>Prep Batch: 640-59858</b>					
LCS 640-59858/2-A	Lab Control Sample	T	Solid	LC65	
LCSD 640-59858/3-A	Lab Control Sample Duplicate	T	Solid	LC65	
MB 640-59858/1-A	Method Blank	T	Solid	LC65	
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	LC65	
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	LC65	
360-24173-11MS	Matrix Spike	T	Solid	LC65	
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	LC65	
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	LC65	
<b>Analysis Batch: 640-60196</b>					
LCS 640-59857/2-A	Lab Control Sample	T	Solid	8315A	640-59857
LCSD 640-59857/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-59857
MB 640-59857/1-A	Method Blank	T	Solid	8315A	640-59857
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	8315A	640-59857
360-24173-10	OC-SB-412-12/13-XXX	T	Solid	8315A	640-59857
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	8315A	640-59857
360-24173-11MS	Matrix Spike	T	Solid	8315A	640-59857
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	8315A	640-59857
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	8315A	640-59857
360-24173-13	OC-SB-420-12/14-XXX	T	Solid	8315A	640-59857
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	8315A	640-59857
360-24173-15	OC-SB-423-0.0/1.0-XXX	T	Solid	8315A	640-59857

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report				
		Basis	Client Matrix	Method	Prep Batch	
<b>HPLC</b>						
<b>Analysis Batch:640-60311</b>						
LCS 640-59774/2-A	Lab Control Sample	T	Solid	LC65	640-59774	
LCSD 640-59774/3-A	Lab Control Sample Duplicate	T	Solid	LC65	640-59774	
MB 640-59774/1-A	Method Blank	T	Solid	LC65	640-59774	
LCS 640-59843/2-A	Lab Control Sample	T	Water	LC65	640-59843	
LCSD 640-59843/3-A	Lab Control Sample Duplicate	T	Water	LC65	640-59843	
MB 640-59843/1-A	Method Blank	T	Water	LC65	640-59843	
LCS 640-59858/2-A	Lab Control Sample	T	Solid	LC65	640-59858	
LCSD 640-59858/3-A	Lab Control Sample Duplicate	T	Solid	LC65	640-59858	
MB 640-59858/1-A	Method Blank	T	Solid	LC65	640-59858	
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	LC65	640-59774	
360-24173-4MS	Matrix Spike	T	Solid	LC65	640-59774	
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	LC65	640-59774	
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	LC65	640-59774	
360-24173-8	OC-EBK-001	T	Water	LC65	640-59843	
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	LC65	640-59858	
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	LC65	640-59858	
360-24173-11MS	Matrix Spike	T	Solid	LC65	640-59858	
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	LC65	640-59858	
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	LC65	640-59858	
<b>Analysis Batch:640-60312</b>						
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	640-59858	
<b>Analysis Batch:640-60313</b>						
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	640-59858	
<b>Prep Batch: 640-60315</b>						
LCS 640-60315/2-A	Lab Control Sample	T	Solid	8315_S_Prep		
LCSD 640-60315/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep		
MB 640-60315/1-A	Method Blank	T	Solid	8315_S_Prep		
360-24173-4RE	OC-SB-416-0.0/1.0-XXX	T	Solid	8315_S_Prep		
360-24173-5RE	OC-SB-416-13/14-XXX	T	Solid	8315_S_Prep		
360-24173-6RE	OC-SB-416-8.0/9.0-XXX	T	Solid	8315_S_Prep		
<b>Analysis Batch:640-60348</b>						
LCS 640-59827/2-A	Lab Control Sample	T	Water	8315A	640-59827	
LCSD 640-59827/3-A	Lab Control Sample Duplicate	T	Water	8315A	640-59827	
MB 640-59827/1-A	Method Blank	T	Water	8315A	640-59827	
360-24173-8	OC-EBK-001	T	Water	8315A	640-59827	

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report				
		Basis	Client Matrix	Method	Prep Batch	
<b>HPLC</b>						
<b>Analysis Batch:640-60477</b>						
LCS 640-60315/2-A	Lab Control Sample	T	Solid	8315A	640-60315	
LCSD 640-60315/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-60315	
MB 640-60315/1-A	Method Blank	T	Solid	8315A	640-60315	
360-24173-4RE	OC-SB-416-0.0/1.0-XXX	T	Solid	8315A	640-60315	
360-24173-5RE	OC-SB-416-13/14-XXX	T	Solid	8315A	640-60315	
360-24173-6RE	OC-SB-416-8.0/9.0-XXX	T	Solid	8315A	640-60315	

#### Report Basis

T = Total

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### **Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59772**

**Method: 8315A  
Preparation: 8315\_S\_Prep**

LCS Lab Sample ID:	LCS 640-59772/2-A	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M8.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1400			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

LCSD Lab Sample ID:	LCSD 640-59772/3-A	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M9.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1411			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

Analyte	% Rec.						
	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Formaldehyde	104	102	71 - 122	2	30		
Acetaldehyde	95	91	61 - 131	4	30		

### **Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 640-59772**

*SB-416 0.0/1.0*

**Method: 8315A  
Preparation: 8315\_S\_Prep**

MS Lab Sample ID:	360-24173-4	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M11.d
Dilution:	1.0			Initial Weight/Volume:	20.3 g
Date Analyzed:	08/19/2009 1435			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

MSD Lab Sample ID:	360-24173-4	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M12.d
Dilution:	1.0			Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1447			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

Analyte	% Rec.						
	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Formaldehyde	103	106	31 - 131	3	30		
Acetaldehyde	83	83	30 - 130	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-59827

Method: 8315A  
Preparation: 8315\_W\_Prep

Lab Sample ID: MB 640-59827/1-A      Analysis Batch: 640-60348  
Client Matrix: Water      Prep Batch: 640-59827  
Dilution: 1.0      Units: ug/L  
Date Analyzed: 08/20/2009 1235  
Date Prepared: 08/20/2009 0800

Instrument ID: LCM Waters 486  
Lab File ID: 1H20M3.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		5.0	50
Acetaldehyde	ND		10	100

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59827

Method: 8315A  
Preparation: 8315\_W\_Prep

LCS Lab Sample ID: LCS 640-59827/2-A      Analysis Batch: 640-60348  
Client Matrix: Water      Prep Batch: 640-59827  
Dilution: 1.0      Units: ug/L  
Date Analyzed: 08/20/2009 1247  
Date Prepared: 08/20/2009 0800

Instrument ID: LCM Waters 486  
Lab File ID: 1H20M4.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-59827/3-A      Analysis Batch: 640-60348  
Client Matrix: Water      Prep Batch: 640-59827  
Dilution: 1.0      Units: ug/L  
Date Analyzed: 08/20/2009 1259  
Date Prepared: 08/20/2009 0800

Instrument ID: LCM Waters 486  
Lab File ID: 1H20M5.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	99	91	70 - 125	8	20		
Acetaldehyde	92	91	79 - 113	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-59857

Method: 8315A  
Preparation: 8315\_S\_Prep

Lab Sample ID: MB 640-59857/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1307  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M8.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		78	100
Acetaldehyde	ND		29	200

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59857

Method: 8315A  
Preparation: 8315\_S\_Prep

LCS Lab Sample ID: LCS 640-59857/2-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1319  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M9.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-59857/3-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1331  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M10.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.				RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD	Limit					
Formaldehyde	91	96	71 - 122	5	30			
Acetaldehyde	87	90	61 - 131	3	30			

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Matrix Spike/

### Matrix Spike Duplicate Recovery Report - Batch: 640-59857

SB-412 6.0/7.0

MS Lab Sample ID: 360-24173-11      Analysis Batch: 640-60196  
Client Matrix: Solid      Prep Batch: 640-59857  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1418  
Date Prepared: 08/23/2009 1546

Method: 8315A

Preparation: 8315\_S\_Prep

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M14.d  
Initial Weight/Volume: 20.35 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

MSD Lab Sample ID: 360-24173-11      Analysis Batch: 640-60196  
Client Matrix: Solid      Prep Batch: 640-59857  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1430  
Date Prepared: 08/23/2009 1546

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M15.d  
Initial Weight/Volume: 20.21 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Formaldehyde	84	82	31 - 131	2	30		
Acetaldehyde	88	90	30 - 130	3	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-60315

Method: 8315A

Preparation: 8315\_S\_Prep

Lab Sample ID: MB 640-60315/1-A      Analysis Batch: 640-60477  
Client Matrix: Solid      Prep Batch: 640-60315  
Dilution: 1.0      Units: ug/Kg  
Date Analyzed: 09/03/2009 1032  
Date Prepared: 09/01/2009 0738

Instrument ID: LCM Waters 486  
Lab File ID: 1I03M3.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		78	100
Acetaldehyde	30.4	J	29	200

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-60315

Method: 8315A

Preparation: 8315\_S\_Prep

LCS Lab Sample ID: LCS 640-60315/2-A      Analysis Batch: 640-60477  
Client Matrix: Solid      Prep Batch: 640-60315  
Dilution: 1.0      Units: ug/Kg  
Date Analyzed: 09/03/2009 1044  
Date Prepared: 09/01/2009 0738

Instrument ID: LCM Waters 486  
Lab File ID: 1I03M4.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID:	LCSD 640-60315/3-A	Analysis Batch:	640-60477	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-60315	Lab File ID:	1I03M5.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	20.0 g
Date Analyzed:	09/03/2009 1055			Final Weight/Volume:	4.0 mL
Date Prepared:	09/01/2009 0738			Injection Volume:	10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	93	96	71 - 122	3	30		
Acetaldehyde	83	84	61 - 131	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
 SDG No.: OCRI-01  
 Matrix: Solid Level: Low Lab File ID: 1H19M8.d  
 Lab ID: LCS 640-59772/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Formaldehyde	750	781	104	71-122	
Acetaldehyde	750	713	95	61-131	

✓  
*Raw data check*  
 3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Water Level: Low Lab File ID: 1H20M4.d

Lab ID: LCS 640-59827/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Formaldehyde	150	✓ 148	99	70-125	
Acetaldehyde	150	✓ 138	92	79-113	

*✓  
 raw data/cube check  
 ev  
 3/19/10*

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M9.d

Lab ID: LCSD 640-59772/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD %	REC	RPD	QC LIMITS		#
						RPD	REC	
Formaldehyde	750	766	102	✓	✓	30	71-122	
Acetaldehyde	750	684	91	✓	4	30	61-131	

✓  
ew  
3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M11.d

Lab ID: 360-24173-4 MS Client ID: OC-SB-416-0.0/1.0-XXX MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS REC	QC LIMITS REC	#
Formaldehyde	764	190	973	✓ 103	31-131	
Acetaldehyde	764	ND	✓ 635	✓ 83	30-130	

CH  
3/19/09

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M12.d

Lab ID: 360-24173-4 MSD Client ID: OC-SB-416-0.0/1.0-XXX MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD REC	MSD REC	QC LIMITS		#
					RPD	REC	
Formaldehyde	775	1010	106	3	30	31-131	
Acetaldehyde	775	645	83	2	30	30-130	

OW  
3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Client Sample ID: OC-SB-416-0.0/1.0-XXX

Lab Sample ID: 360-24173-4

Matrix: Solid

Lab File ID: 1H19M10.d

Analysis Method: 8315A

Date Collected: 08/18/2009 10:35

Extract. Method: 8315\_S\_Prep

Date Extracted: 08/19/2009 10:40

Sample wt/vol: 20.2(g)

Date Analyzed: 08/19/2009 14:23

Con. Extract Vol.: 4.0 (mL)

Dilution Factor: 1

Injection Volume: 10 (uL)

Level: (low/med) Low

% Moisture: 3.2

GPC Cleanup: (Y/N) N

Analysis Batch No.: 59851

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	190		100	80
75-07-0	Acetaldehyde	ND		200	30

*cale checks  
ch  
3/19/10*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M10.d  
Lab Smp Id: 360-24173-F-4-A Client Smp ID: OC-SB-416-0.0/1.0-X  
Inj Date : 19-AUG-2009 14:23  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : 360-24173-F-4-A  
Misc Info : 360-24173-F-4-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS					REVIEW CODE	
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	20259	0.90490	179	
2 Acetaldehyde				Compound Not Detected.			

calc check  
on 3/19/10  
$$\frac{0.9049 \text{ ug/ml} \times 4 \text{ ml}}{20.2 \text{ g (96\%)}} = 175 \text{ ug/kg}$$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24173-1</u>
SDG No.: <u>OCRI-01</u>	
Client Sample ID: <u>OC-SB-416-0.0/1.0-XXX RE</u>	Lab Sample ID: <u>360-24173-4 RE</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1I03M9.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>08/18/2009 10:35</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/01/2009 08:02</u>
Sample wt/vol: <u>20.4 (g)</u>	Date Analyzed: <u>09/03/2009 11:43</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>3.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>60477</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	290	H	100	79
75-07-0	Acetaldehyde	34	J H B	200	29

*✓ on file check  
3/12/10*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M9.d  
Lab Smp Id: 360-24173-F-4-G Client Smp ID: OC-SB-416-0.0/1.0-X  
Inj Date : 03-SEP-2009 11:43  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173-F-4-G  
Misc Info : 360-24173-F-4-G  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 13:19 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.400	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.933	0.000	32779	1.45125	284	
2 Acetaldehyde	3.966	3.950	0.016	1548	0.16542	32.4(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

1.45 Based on Excel  
1.45 ug/ml \* 4 ml = 293 ug/kg  
0.0204 kg (.9168)  
CN  
3/19/10

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID: OC-SB-412-0.0/1.0-XXX Lab Sample ID: 360-24173-9  
Matrix: Solid Lab File ID: 1H24M11.d  
Analysis Method: 8315A Date Collected: 08/18/2009 12:45  
Extract. Method: 8315\_S\_Prep Date Extracted: 08/23/2009 15:46  
Sample wt/vol: 20.35(g) Date Analyzed: 08/24/2009 13:43  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 3.3 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 60196 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	180		100	79
75-07-0	Acetaldehyde	ND		200	29

✓  
eala chua or  
3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M11.d  
Lab Smp Id: 360-24173-G-9-B Client Smp ID: OC-SB-412-0.0/1.0-X  
Inj Date : 24-AUG-2009 13:43  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173-G-9-B  
Misc Info : 360-24173-G-9-B  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.350	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	22496	0.89786	176	=====
2 Acetaldehyde				Compound Not Detected.			

1.12 ug/ml Based on Excel Regression

$$\frac{.9 \text{ ug/ml}}{.202 \text{ kg}} = \frac{178 \text{ ug/kg}}{.967} = 184$$

## FORM VI

HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 59851  
SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: \_\_\_\_\_ Heated Purge: (Y/N) N  
Calibration Start Date: 08/19/2009 08:49 Calibration End Date: 08/19/2009 09:36 Calibration ID: 270

## Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT. WINDOW	AVG RT
Formaldehyde	✓ 2.933	2.933	2.933	2.933	2.917						2.800 - 3.100	2.930
Acetaldehyde	✓ 3.967	3.950	3.950	3.950	3.933						3.833 - 4.133	3.950

*cu*  
*3 | 19 | 10*

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 59851

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2009 08:49 Calibration End Date: 08/19/2009 09:36 Calibration ID: 270

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	✓ 27734 15782	✓ 21941	17810	15797	Lin	0	15468							0.9999		0.9900
Acetaldehyde	✓ 7630.0 7730.3	✓ 7776.0	7168.8	7435.8	Ave		7548					✓ 3.3	✓ 20.0			

✓  
calc check  
en 3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

## FORM VI

HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 59851

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2009 08:49

Calibration End Date: 08/19/2009 09:36

Calibration ID: 270

## Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	13867	27426	44525	197459	394556	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	3815	9720	17922	92947	193257	0.500	1.25	2.50	12.5	25.0

## Curve Type Legend:

Ave = Average by Height  
 Lin = Linear by Height

✓ raw data check  
 on 3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M2.d  
Lab Smp Id: C1.59780 Client Smp ID: C1.59780  
Inj Date : 19-AUG-2009 08:49  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C1.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 09:43 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 08:49 Cal File: 1H19M2.d  
Als bottle: 1 Calibration Sample, Level: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	13867	0.50000	0.449	
2 Acetaldehyde	3.966	3.966	0.000	3815	0.50000	0.506	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M4.d  
Lab Smp Id: C3.59780 Client Smp ID: C3.59780  
Inj Date : 19-AUG-2009 09:13  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 09:43 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:13 Cal File: 1H19M4.d  
Als bottle: 1 Calibration Sample, Level: 3  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	44525	2.50000	2.46	
2 Acetaldehyde	3.950	3.950	0.000	17922	2.50000	2.39	

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60196

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/24/2009 11:21 Calibration End Date: 08/24/2009 12:08 Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5					RT WINDOW	AVG RT
Formaldehyde	✓ 2.967	2.967	2.967	✓ 2.967	2.950					2.817 - 3.117	2.963
Acetaldehyde	✓ 4.000	4.017	4.000	✓ 4.000	3.983					3.850 - 4.150	4.000

✓  
CK  
3/14/10

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 60196

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 08/24/2009 11:21

Calibration End Date: 08/24/2009 12:08

Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin2	15211	28046	50428	245096	505158	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Lin2	6327	12180	24522	119520	247238	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Lin2 = Linear 1/conc^2 by height

CV  
3/19/20

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60196

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/24/2009 11:21 Calibration End Date: 08/24/2009 12:08 Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	30422 20206	22437	20171	19608	Lin2	0	18980							0.9968		0.9900
Acetaldehyde	12654 9889.5	9744.0	9808.8	9561.6	Lin2	0	9380							0.9958		0.9900

✓  
cal check  
on  
3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 60472

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 09/02/2009 11:33

Calibration End Date: 09/02/2009 12:20

Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	16398	29175	50452	232028	455701	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	4985	11635	22287	115946	233007	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Ave = Average by Height
Lin = Linear by Height

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60472  
SDG No.: OCRI-01  
Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N  
Calibration Start Date: 09/02/2009 11:33 Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	32796 ✓ 18228	23340	20181	✓ 18562	Lin	0	17970	✓						1.0000		0.9900
Acetaldehyde	✓ 9970.0 9320.3	9308.0	8914.8	✓ 9275.7	Ave		9358	✓			✓ 4.1		20.0			

✓  
cal checked  
on  
3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60472  
SDG No.: OCRI-01  
Instrument ID: LCM GC Column: LC-C18 ID:  Heated Purge: (Y/N) N  
Calibration Start Date: 09/02/2009 11:33 Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5					RT WINDOW	AVG RT
Formaldehyde	2.933	2.933	2.933	2.933	2.933					2.783 - 3.083	2.933
Acetaldehyde	3.967	3.967	3.967	3.967	3.950					3.800 - 4.100	3.963

*CH  
3/19/10*

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 16768		✓ 2.30	2.50	-7.9	15.0
Acetaldehyde	Ave	7548	✓ 6916		✓ 2.29	2.50	-8.4	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.95	2.80	3.10
Acetaldehyde	✓ 3.98	3.83	4.13

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Prep Batch: 640-59772</b>					
LCS 640-59772/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-59772/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-4MS	Matrix Spike	T	Solid	8315_S_Prep	
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	8315_S_Prep	
360-24173-5	OC-SB-416-13/14-XXX	T	Solid	8315_S_Prep	
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	8315_S_Prep	
<b>Prep Batch: 640-59774</b>					
LCS 640-59774/2-A	Lab Control Sample	T	Solid	LC65	
LCSD 640-59774/3-A	Lab Control Sample Duplicate	T	Solid	LC65	
MB 640-59774/1-A	Method Blank	T	Solid	LC65	
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	LC65	
360-24173-4MS	Matrix Spike	T	Solid	LC65	
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	LC65	
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	LC65	
<b>Prep Batch: 640-59827</b>					
LCS 640-59827/2-A	Lab Control Sample	T	Water	8315_W_Prep	
LCSD 640-59827/3-A	Lab Control Sample Duplicate	T	Water	8315_W_Prep	
MB 640-59827/1-A	Method Blank	T	Water	8315_W_Prep	
360-24173-8	OC-EBK-001	T	Water	8315_W_Prep	
<b>Prep Batch: 640-59843</b>					
LCS 640-59843/2-A	Lab Control Sample	T	Water	LC65	
LCSD 640-59843/3-A	Lab Control Sample Duplicate	T	Water	LC65	
MB 640-59843/1-A	Method Blank	T	Water	LC65	
360-24173-8	OC-EBK-001	T	Water	LC65	
<b>Analysis Batch: 640-59851</b>					
LCS 640-59772/2-A	Lab Control Sample	T	Solid	8315A	640-59772
LCSD 640-59772/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-59772
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	8315A	640-59772
360-24173-4MS	Matrix Spike	T	Solid	8315A	640-59772
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	8315A	640-59772
360-24173-5	OC-SB-416-13/14-XXX	T	Solid	8315A	640-59772
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	8315A	640-59772

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Prep Batch: 640-59857</b>					
LCS 640-59857/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-59857/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
MB 640-59857/1-A	Method Blank	T	Solid	8315_S_Prep	
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-10	OC-SB-412-12/13-XXX	T	Solid	8315_S_Prep	
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	8315_S_Prep	
360-24173-11MS	Matrix Spike	T	Solid	8315_S_Prep	
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	8315_S_Prep	
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-13	OC-SB-420-12/14-XXX	T	Solid	8315_S_Prep	
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	8315_S_Prep	
360-24173-15	OC-SB-423-0.0/1.0-XXX	T	Solid	8315_S_Prep	
<b>Prep Batch: 640-59858</b>					
LCS 640-59858/2-A	Lab Control Sample	T	Solid	LC65	
LCSD 640-59858/3-A	Lab Control Sample Duplicate	T	Solid	LC65	
MB 640-59858/1-A	Method Blank	T	Solid	LC65	
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	LC65	
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	LC65	
360-24173-11MS	Matrix Spike	T	Solid	LC65	
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	LC65	
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	LC65	
<b>Analysis Batch: 640-60196</b>					
LCS 640-59857/2-A	Lab Control Sample	T	Solid	8315A	640-59857
LCSD 640-59857/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-59857
MB 640-59857/1-A	Method Blank	T	Solid	8315A	640-59857
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	8315A	640-59857
360-24173-10	OC-SB-412-12/13-XXX	T	Solid	8315A	640-59857
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	8315A	640-59857
360-24173-11MS	Matrix Spike	T	Solid	8315A	640-59857
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	8315A	640-59857
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	8315A	640-59857
360-24173-13	OC-SB-420-12/14-XXX	T	Solid	8315A	640-59857
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	8315A	640-59857
360-24173-15	OC-SB-423-0.0/1.0-XXX	T	Solid	8315A	640-59857

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Analysis Batch:640-60311</b>					
LCS 640-59774/2-A	Lab Control Sample	T	Solid	LC65	640-59774
LCSD 640-59774/3-A	Lab Control Sample Duplicate	T	Solid	LC65	640-59774
MB 640-59774/1-A	Method Blank	T	Solid	LC65	640-59774
LCS 640-59843/2-A	Lab Control Sample	T	Water	LC65	640-59843
LCSD 640-59843/3-A	Lab Control Sample Duplicate	T	Water	LC65	640-59843
MB 640-59843/1-A	Method Blank	T	Water	LC65	640-59843
LCS 640-59858/2-A	Lab Control Sample	T	Solid	LC65	640-59858
LCSD 640-59858/3-A	Lab Control Sample Duplicate	T	Solid	LC65	640-59858
MB 640-59858/1-A	Method Blank	T	Solid	LC65	640-59858
360-24173-4	OC-SB-416-0.0/1.0-XXX	T	Solid	LC65	640-59774
360-24173-4MS	Matrix Spike	T	Solid	LC65	640-59774
360-24173-4MSD	Matrix Spike Duplicate	T	Solid	LC65	640-59774
360-24173-6	OC-SB-416-8.0/9.0-XXX	T	Solid	LC65	640-59774
360-24173-8	OC-EBK-001	T	Water	LC65	640-59843
360-24173-9	OC-SB-412-0.0/1.0-XXX	T	Solid	LC65	640-59858
360-24173-11	OC-SB-412-6.0/7.0-XXX	T	Solid	LC65	640-59858
360-24173-11MS	Matrix Spike	T	Solid	LC65	640-59858
360-24173-11MSD	Matrix Spike Duplicate	T	Solid	LC65	640-59858
360-24173-14	OC-SB-420-6.5/8.5-XXX	T	Solid	LC65	640-59858
<b>Analysis Batch:640-60312</b>					
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	640-59858
<b>Analysis Batch:640-60313</b>					
360-24173-12	OC-SB-420-0.0/1.0-XXX	T	Solid	LC65	640-59858
<b>Prep Batch: 640-60315</b>					
LCS 640-60315/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-60315/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
MB 640-60315/1-A	Method Blank	T	Solid	8315_S_Prep	
360-24173-4RE	OC-SB-416-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24173-5RE	OC-SB-416-13/14-XXX	T	Solid	8315_S_Prep	
360-24173-6RE	OC-SB-416-8.0/9.0-XXX	T	Solid	8315_S_Prep	
<b>Analysis Batch:640-60348</b>					
LCS 640-59827/2-A	Lab Control Sample	T	Water	8315A	640-59827
LCSD 640-59827/3-A	Lab Control Sample Duplicate	T	Water	8315A	640-59827
MB 640-59827/1-A	Method Blank	T	Water	8315A	640-59827
360-24173-8	OC-EBK-001	T	Water	8315A	640-59827

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1

Sdg Number: OCRI-01

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Analysis Batch:640-60477</b>					
LCS 640-60315/2-A	Lab Control Sample	T	Solid	8315A	640-60315
LCSD 640-60315/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-60315
MB 640-60315/1-A	Method Blank	T	Solid	8315A	640-60315
360-24173-4RE	OC-SB-416-0.0/1.0-XXX	T	Solid	8315A	640-60315
360-24173-5RE	OC-SB-416-13/14-XXX	T	Solid	8315A	640-60315
360-24173-6RE	OC-SB-416-8.0/9.0-XXX	T	Solid	8315A	640-60315

#### Report Basis

T = Total

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### **Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59772**

**Method: 8315A  
Preparation: 8315\_S\_Prep**

LCS Lab Sample ID:	LCS 640-59772/2-A	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M8.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1400			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

LCSD Lab Sample ID:	LCSD 640-59772/3-A	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M9.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1411			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	104	102	71 - 122	2	30		
Acetaldehyde	95	91	61 - 131	4	30		

### **Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 640-59772**

*SB-416 0.0/1.0*

**Method: 8315A  
Preparation: 8315\_S\_Prep**

MS Lab Sample ID:	360-24173-4	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M11.d
Dilution:	1.0			Initial Weight/Volume:	20.3 g
Date Analyzed:	08/19/2009 1435			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

MSD Lab Sample ID:	360-24173-4	Analysis Batch:	640-59851	Instrument ID:	LCM Waters 486
Client Matrix:	Solid	Prep Batch:	640-59772	Lab File ID:	1H19M12.d
Dilution:	1.0			Initial Weight/Volume:	20.0 g
Date Analyzed:	08/19/2009 1447			Final Weight/Volume:	4.0 mL
Date Prepared:	08/19/2009 1040			Injection Volume:	10 uL

Analyte	<u>% Rec.</u>		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Formaldehyde	103	106	31 - 131	3	30		
Acetaldehyde	83	83	30 - 130	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-59827

Method: 8315A  
Preparation: 8315\_W\_Prep

Lab Sample ID: MB 640-59827/1-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2009 1235  
Date Prepared: 08/20/2009 0800

Analysis Batch: 640-60348  
Prep Batch: 640-59827  
Units: ug/L

Instrument ID: LCM Waters 486  
Lab File ID: 1H20M3.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		5.0	50
Acetaldehyde	ND		10	100

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59827

Method: 8315A  
Preparation: 8315\_W\_Prep

LCS Lab Sample ID: LCS 640-59827/2-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 08/20/2009 1247  
Date Prepared: 08/20/2009 0800

Analysis Batch: 640-60348  
Prep Batch: 640-59827  
Units: ug/L

Instrument ID: LCM Waters 486  
Lab File ID: 1H20M4.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID:	LCSD 640-59827/3-A	Analysis Batch:	640-60348	Instrument ID:	LCM Waters 486
Client Matrix:	Water	Prep Batch:	640-59827	Lab File ID:	1H20M5.d
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	100 mL
Date Analyzed:	08/20/2009 1259			Final Weight/Volume:	4.0 mL
Date Prepared:	08/20/2009 0800			Injection Volume:	10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	99	91	70 - 125	8	20		
Acetaldehyde	92	91	79 - 113	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-59857

Method: 8315A  
Preparation: 8315\_S\_Prep

Lab Sample ID: MB 640-59857/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1307  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M8.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		78	100
Acetaldehyde	ND		29	200

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 640-59857

Method: 8315A  
Preparation: 8315\_S\_Prep

LCS Lab Sample ID: LCS 640-59857/2-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1319  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M9.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-59857/3-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1331  
Date Prepared: 08/23/2009 1546

Analysis Batch: 640-60196  
Prep Batch: 640-59857  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M10.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	91	96	71 - 122	5	30		
Acetaldehyde	87	90	61 - 131	3	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Matrix Spike/

### Matrix Spike Duplicate Recovery Report - Batch: 640-59857

*SB-412 6.0/7.0*

MS Lab Sample ID: 360-24173-11      Analysis Batch: 640-60196  
Client Matrix: Solid      Prep Batch: 640-59857  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1418  
Date Prepared: 08/23/2009 1546

Method: 8315A

Preparation: 8315\_S\_Prep

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M14.d  
Initial Weight/Volume: 20.35 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

MSD Lab Sample ID: 360-24173-11      Analysis Batch: 640-60196  
Client Matrix: Solid      Prep Batch: 640-59857  
Dilution: 1.0  
Date Analyzed: 08/24/2009 1430  
Date Prepared: 08/23/2009 1546

Instrument ID: LCM Waters 486  
Lab File ID: 1H24M15.d  
Initial Weight/Volume: 20.21 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Formaldehyde	✓ 84	82	31 - 131	2	30		
Acetaldehyde	88	90	30 - 130	3	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24173-1  
Sdg Number: OCRI-01

### Method Blank - Batch: 640-60315

Method: 8315A  
Preparation: 8315\_S\_Prep

Lab Sample ID: MB 640-60315/1-A      Analysis Batch: 640-60477  
Client Matrix: Solid      Prep Batch: 640-60315  
Dilution: 1.0      Units: ug/Kg  
Date Analyzed: 09/03/2009 1032  
Date Prepared: 09/01/2009 0738

Instrument ID: LCM Waters 486  
Lab File ID: 1I03M3.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		78	100
Acetaldehyde	30.4	J	29	200

### Lab Control Sample/

### Lab Control Sample Duplicate Recovery Report - Batch: 640-60315

Method: 8315A  
Preparation: 8315\_S\_Prep

LCS Lab Sample ID: LCS 640-60315/2-A      Analysis Batch: 640-60477  
Client Matrix: Solid      Prep Batch: 640-60315  
Dilution: 1.0      Units: ug/Kg  
Date Analyzed: 09/03/2009 1044  
Date Prepared: 09/01/2009 0738

Instrument ID: LCM Waters 486  
Lab File ID: 1I03M4.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-60315/3-A      Analysis Batch: 640-60477  
Client Matrix: Solid      Prep Batch: 640-60315  
Dilution: 1.0      Units: ug/Kg  
Date Analyzed: 09/03/2009 1055  
Date Prepared: 09/01/2009 0738

Instrument ID: LCM Waters 486  
Lab File ID: 1I03M5.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	93	96	71 - 122	3	30		
Acetaldehyde	83	84	61 - 131	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M8.d

Lab ID: LCS 640-59772/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Formaldehyde	750	781	104	71-122	
Acetaldehyde	750	713	95	61-131	

✓  
Raw data check  
in 3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Matrix: Water Level: Low Lab File ID: 1H20M4.d  
Lab ID: LCS 640-59827/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Formaldehyde	150	148	99	70-125	
Acetaldehyde	150	138	92	79-113	

✓  
Raw data/cub check  
en  
3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M9.d

Lab ID: LCSD 640-59772/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD %	QC LIMITS		#
				REC	RPD	
Formaldehyde	750	766	102	✓ 2	30	71-122
Acetaldehyde	750	684	91	✓ 4	30	61-131

✓  
ew  
3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M11.d

Lab ID: 360-24173-4 MS Client ID: OC-SB-416-0.0/1.0-XXX MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Formaldehyde	764	190	973	✓ 103	31-131	
Acetaldehyde	764	ND	✓ 635	✓ 83	30-130	

CH  
3/19/09

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Matrix: Solid Level: Low Lab File ID: 1H19M12.d

Lab ID: 360-24173-4 MSD Client ID: OC-SB-416-0.0/1.0-XXX MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD	%	#	QC LIMITS	
			REC	REC		RPD	REC
Formaldehyde	775	1010	✓ 106	/ 3		30	31-131
Acetaldehyde	775	645	✓ 83	/ 2		30	30-130

OW  
3/19/10

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24173-1</u>
SDG No.: <u>OCRI-01</u>	
Client Sample ID: <u>OC-SB-416-0.0/1.0-XXX</u>	Lab Sample ID: <u>360-24173-4</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1H19M10.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>08/18/2009 10:35</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>08/19/2009 10:40</u>
Sample wt/vol: <u>20.2(g)</u>	Date Analyzed: <u>08/19/2009 14:23</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>3.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>59851</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	190		100	80
75-07-0	Acetaldehyde	ND		200	30

*cale checks*  
*ch*  
*3/19/10*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M10.d  
Lab Smp Id: 360-24173-F-4-A Client Smp ID: OC-SB-416-0.0/1.0-X  
Inj Date : 19-AUG-2009 14:23  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : 360-24173-F-4-A  
Misc Info : 360-24173-F-4-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	.20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	20259	0.90490	179	
2 Acetaldehyde				Compound Not Detected.			

calc chdh  
2000 3/19/10  
$$\frac{0.9049 \text{ ug/ml} \times 4 \text{ ml}}{20.2 \text{ g (0.02)}} = 175 \text{ ug/kg}$$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24173-1</u>
SDG No.: <u>OCRI-01</u>	
Client Sample ID: <u>OC-SB-416-0.0/1.0-XXX RE</u>	Lab Sample ID: <u>360-24173-4 RE</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1I03M9.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>08/18/2009 10:35</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/01/2009 08:02</u>
Sample wt/vol: <u>20.4(g)</u>	Date Analyzed: <u>09/03/2009 11:43</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>3.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>60477</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	290	H	100	79
75-07-0	Acetaldehyde	34	J H B	200	29

*✓ on calc check  
3/19/10*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M9.d  
Lab Smp Id: 360-24173-F-4-G Client Smp ID: OC-SB-416-0.0/1.0-X  
Inj Date : 03-SEP-2009 11:43  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173-F-4-G  
Misc Info : 360-24173-F-4-G  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 13:19 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.400	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.933	0.000	32779	1.45125	284	
2 Acetaldehyde	3.966	3.950	0.016	1548	0.16542	32.4 (a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation (BLOQ).

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID: OC-SB-412-0.0/1.0-XXX Lab Sample ID: 360-24173-9  
Matrix: Solid Lab File ID: 1H24M11.d  
Analysis Method: 8315A Date Collected: 08/18/2009 12:45  
Extract. Method: 8315\_S\_Prep Date Extracted: 08/23/2009 15:46  
Sample wt/vol: 20.35(g) Date Analyzed: 08/24/2009 13:43  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 3.3 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 60196 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	180		100	79
75-07-0	Acetaldehyde	ND		200	29

✓  
eck chw or  
3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M11.d  
Lab Smp Id: 360-24173-G-9-B Client Smp ID: OC-SB-412-0.0/1.0-X  
Inj Date : 24-AUG-2009 13:43  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173-G-9-B  
Misc Info : 360-24173-G-9-B  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.350	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	22496	0.89786	176	
2 Acetaldehyde				Compound Not Detected.			

1.12 ug/ml Based on Excel Regression

$$\frac{.9 \text{ ug/ml} \times 4 \text{ ml}}{.202 \text{ kg}} = \frac{178 \text{ ug/kg}}{.967} \rightarrow 184$$

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 59851

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: \_\_\_\_\_ Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2009 08:49 Calibration End Date: 08/19/2009 09:36 Calibration ID: 270

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT. WINDOW	AVG RT
Formaldehyde	✓ 2.933	2.933	2.933	2.933	2.917						2.800 - 3.100	2.930
Acetaldehyde	✓ 3.967	3.950	3.950	3.950	3.933						3.833 - 4.133	3.950

*CW*  
*3/19/10*

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 59851

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2009 08:49 Calibration End Date: 08/19/2009 09:36 Calibration ID: 270

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	✓ 27734 15782	✓ 21941	17810	15797	Lin	0	15488							0.9999		0.9900
Acetaldehyde	✓ 7630.0 7730.3	✓ 7776.0	7168.8	7435.8	Ave		7548					3.3	✓ 20.0			

✓  
calc check  
on 3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 59851

SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2009 08:49 Calibration End Date: 08/19/2009 09:36 Calibration ID: 270

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-59851/9	1H19M2.d
Level 2	IC 640-59851/10	1H19M3.d
Level 3	IC 640-59851/11	1H19M4.d
Level 4	IC 640-59851/12	1H19M5.d
Level 5	IC 640-59851/13	1H19M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	13867	27426	44525	197459	394556	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	3815	9720	17922	92947	193257	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Ave = Average by Height  
Lin = Linear by Height

✓ raw data check  
on 3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M2.d  
Lab Smp Id: C1.59780 Client Smp ID: C1.59780  
Inj Date : 19-AUG-2009 08:49  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C1.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 09:43 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 08:49 Cal File: 1H19M2.d  
Als bottle: 1 Calibration Sample, Level: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	13867	0.50000	0.449	
2 Acetaldehyde	3.966	3.966	0.000	3815	0.50000	0.506	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M4.d  
Lab Smp Id: C3.59780 Client Smp ID: C3.59780  
Inj Date : 19-AUG-2009 09:13  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 09:43 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:13 Cal File: 1H19M4.d  
Als bottle: 1 Calibration Sample, Level: 3  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	44525	2.50000	2.46	
2 Acetaldehyde	3.950	3.950	0.000	17922	2.50000	2.39	

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60196  
SDG No.: OCRI-01  
Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N  
Calibration Start Date: 08/24/2009 11:21 Calibration End Date: 08/24/2009 12:08 Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5					RT WINDOW	AVG RT
Formaldehyde	✓ 2.967	2.967	2.967	✓ 2.967	2.950					2.817 - 3.117	2.963
Acetaldehyde	✓ 4.000	4.017	4.000	✓ 4.000	3.983					3.850 - 4.150	4.000

✓  
CK  
3/10/10

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60196  
SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: \_\_\_\_\_ Heated Purge: (Y/N) N  
Calibration Start Date: 08/24/2009 11:21 Calibration End Date: 08/24/2009 12:08 Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin2	✓ 15211	28046	✓ 50428	245096	505158	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Lin2	✓ 6327	12180	✓ 24522	119520	247238	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Lin2 = Linear 1/conc^2 by height

CV  
3/19/10

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 60196

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 08/24/2009 11:21

Calibration End Date: 08/24/2009 12:08

Calibration ID: 271

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60196/15	1H24M2.d
Level 2	IC 640-60196/26	1H24M3.d
Level 3	IC 640-60196/32	1H24M4.d
Level 4	IC 640-60196/33	1H24M5.d
Level 5	IC 640-60196/34	1H24M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	30422 20206	22437	20171	19608	Lin2	0	18980							0.9968		0.9900
Acetaldehyde	12654 9889.5	9744.0	✓ 9808.8	9561.6	Lin2	0	9380							0.9958		0.9900

✓  
cal check  
on  
3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60472  
SDG No.: OCRI-01

Instrument ID: LCM GC Column: LC-C18 ID: \_\_\_\_\_ Heated Purge: (Y/N) N  
Calibration Start Date: 09/02/2009 11:33 Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	16398	29175	50452	232028	455701	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	4985	11635	22287	115946	233007	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Ave = Average by Height
Lin = Linear by Height

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 60472

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 09/02/2009 11:33

Calibration End Date: 09/02/2009 12:20

Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	32796 18228	23340	20181	✓ 18562	Lin	0	17970							1.0000		0.9900
Acetaldehyde	✓ 9970.0 9320.3	9308.0	8914.8	✓ 9275.7	Ave		9358	✓			✓ 4.1		20.0			

✓  
call check  
on  
3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60472  
SDG No.: OCRI-01  
Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N  
Calibration Start Date: 09/02/2009 11:33 Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT WINDOW	AVG RT
Formaldehyde	2.933	2.933	2.933	2.933	2.933						2.783 - 3.083	2.933
Acetaldehyde	3.967	3.967	3.967	3.967	3.950						3.800 - 4.100	3.963

CH  
3/19/10

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID:  Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 16768		✓ 2.30	2.50	-7.9	15.0
Acetaldehyde	Ave	7548	✓ 6916		✓ 2.29	2.50	-8.4	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID:  Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	3.98	3.83	4.13

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M15.d  
Lab Smp Id: M3.59780 Client Smp ID: M3.59780  
Inj Date : 19-AUG-2009 15:22  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : M3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 04-Sep-2009 14:04 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	41919	2.50000	2.30	✓
2 Acetaldehyde	3.983	3.983	0.000	17290	2.50000	2.29	✓

Acetalddehyd =  $\frac{6916}{7548} \times 2.5 = 2.29 \text{ ug}$

Ung =  $\frac{17290}{19518} = 2.29$

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60348/1 Calibration Date: 08/20/2009 11:16  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H20M2.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 17335		✓ 2.39	2.50	✓ -4.2	15.0
Acetaldehyde	Ave	7548	7336		2.43	2.50	-2.8	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60348/1 Calibration Date: 08/20/2009 11:16  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID:  Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H20M2.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	3.98	3.83	4.13

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\1H20M2.d  
Lab Smp Id: M3.59780 Client Smp ID: M3.59780  
Inj Date : 20-AUG-2009 11:16  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : M3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\8315\_A&F.m  
Meth Date : 20-Aug-2009 11:31 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	43337	2.50000	2.39	
2 Acetaldehyde	3.983	3.983	0.000	18340	2.50000	2.43	

Act conc =  $\frac{18340}{7548} \times 2.43 \text{ ug/ml}$   
or  $3.19 \text{ ug/ml}$

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
 SDG No.: OCRI-01  
 Lab Sample ID: CCVRT 640-60348/8 Calibration Date: 08/20/2009 13:52  
 Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
 GC Column: LC-C18 ID:  Calib End Date: 08/19/2009 09:36  
 Lab File ID: 1H20M9.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 14680		11.4	12.5	✓ -8.4	15.0
Acetaldehyde	Ave	7548	7219		12.0	12.5	-4.4	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60348/8 Calibration Date: 08/20/2009 13:52

Instrument ID: LCM Calib Start Date: 08/19/2009 08:49

GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/19/2009 09:36

Lab File ID: 1H20M9.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.95	2.80	3.10
Acetaldehyde	✓ 3.98	3.83	4.13

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60196/19 Calibration Date: 08/24/2009 16:04  
Instrument ID: LCM Calib Start Date: 08/24/2009 11:21  
GC Column: LC-C18 ID: Calib End Date: 08/24/2009 12:08  
Lab File ID: 1H24M23.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin2	22569	19801		✓ 2.32	2.50	-7.2	15.0
Acetaldehyde	Lin2	10332	9338		✓ 2.33	2.50	-6.7	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60196/19 Calibration Date: 08/24/2009 16:04  
Instrument ID: LCM Calib Start Date: 08/24/2009 11:21  
GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/24/2009 12:08  
Lab File ID: 1H24M23.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.97	2.82	3.12
Acetaldehyde	4.02	3.85	4.15

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M23.d  
Lab Smp Id: CCVRT Client Smp ID: M3.59966  
Inj Date : 24-AUG-2009 16:04  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M3.59966  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:36 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.966	2.966	0.000	49502	2.50000	2.32	
2 Acetaldehyde	4.016	4.016	0.000	23346	2.50000	2.33	

Calculated  
2.37 ug/ml based on Excel Regression  
Formaldehyde  
CN  
3/19/20

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60477/28 Calibration Date: 09/03/2009 09:58  
Instrument ID: LCM Calib Start Date: 09/02/2009 11:33  
GC Column: LC-C18 ID:  Calib End Date: 09/02/2009 12:20  
Lab File ID: 1I03M1.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	22621	19617		2.36	2.50	-5.7	15.0
Acetaldehyde	Ave	9358	8594		2.30	2.50	-8.2	15.0

W  
3/19/10

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60477/28 Calibration Date: 09/03/2009 09:58  
Instrument ID: LCM Calib Start Date: 09/02/2009 11:33  
GC Column: LC-C18 ID: Calib End Date: 09/02/2009 12:20  
Lab File ID: 1I03M1.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.93	2.78	3.08
Acetaldehyde	✓ 3.95	3.82	4.12

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M1.d  
Lab Smp Id: M3.60361 Client Smp ID: M3.60361  
Inj Date : 03-SEP-2009 09:58  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M3.60361  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 10:26 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	49042	2.50000	2.36	
2 Acetaldehyde	3.950	3.950	0.000	21486	2.50000	2.30	

Cal Check 2.37  
CK  
3/19/10

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60477/9 Calibration Date: 09/03/2009 13:29  
Instrument ID: LCM Calib Start Date: 09/02/2009 11:33  
GC Column: LC-C18 ID: Calib End Date: 09/02/2009 12:20  
Lab File ID: 1I03M18.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.93	2.78	3.08
Acetaldehyde	3.97	3.82	4.12

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M8.d  
Lab Smp Id: LCS 640-59772/2A Client Smp ID: 59772MBLCS  
Inj Date : 19-AUG-2009 14:00  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59772/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.950	-0.017	66759	3.90728	781	
2 Acetaldehyde	3.966	3.983	-0.017	26897	3.56338	713	

✓ checked  
3/19/10  
3.90728 ug/Kg = 781 ug/Kg  
3.56338 ug/Kg = 713 ug/Kg

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\1H20M4.d  
Lab Smp Id: LCS 640-59827/2A Client Smp ID: 59827MBLCS  
Inj Date : 20-AUG-2009 12:47  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59827/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\8315\_A&F.m  
Meth Date : 22-Aug-2009 22:36 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	63467	3.69472	148	
2 Acetaldehyde	3.983	3.983	0.000	25958	3.43898	138	

$$\text{Act} = \frac{25957}{7548} = 3.43 \times 40 = 138$$

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TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M9.d  
Lab Smp Id: LCS 640-59857/2A Client Smp ID: 59857MBLCS  
Inj Date : 24-AUG-2009 13:19  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59857/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	70335	3.41833	684	✓
2 Acetaldehyde	4.016	4.000	0.016	32005	3.25584	651	✓

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID:  Lab Sample ID: LCS 640-60315/2-A  
Matrix: Solid Lab File ID: 1I03M4.d  
Analysis Method: 8315A Date Collected:   
Extract. Method: 8315\_S\_Prep Date Extracted: 09/01/2009 07:38  
Sample wt/vol: 20.0(g) Date Analyzed: 09/03/2009 10:44  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 60477 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	700		100	78
75-07-0	Acetaldehyde	621		200	29

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M4.d  
Lab Smp Id: LCS 640-60315/2A Client Smp ID: 60315MBLCS  
Inj Date : 03-SEP-2009 10:44  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCS 640-60315/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 13:19 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.933	0.000	69564	3.49825	700	
2 Acetaldehyde	3.950	3.950	0.000	29037	3.10299	620	

Calc 3.52 based off Excel  
$$\frac{3.52 \text{ ug}}{\text{ml}} \times 4 \text{ ml} = 700$$
$$\frac{3.5 \text{ ug}}{\text{ml}} \times 10 \text{ ml} = 0.02 \text{ Kg}$$

on  
 $\frac{3.5}{10}$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID: OC-SB-416-0.0/1.0-XXX MS Lab Sample ID: 360-24173-4 MS  
Matrix: Solid Lab File ID: 1H19M11.d  
Analysis Method: 8315A Date Collected: 08/18/2009 10:35  
Extract. Method: 8315\_S\_Prep Date Extracted: 08/19/2009 10:40  
Sample wt/vol: 20.3(g) Date Analyzed: 08/19/2009 14:35  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 3.2 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59851 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 973		100	79
75-07-0	Acetaldehyde	✓ 635		200	30

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M11.d  
Lab Smp Id: 360-24173F4B MS Client Smp ID: 24173-4MS  
Inj Date : 19-AUG-2009 14:35  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : 360-24173F4B MS  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

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3/9/10

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	80246	4.77810	956	
2 Acetaldehyde	3.983	3.983	0.000	23525	3.11665	623	

Acet =  $\frac{23525}{7548} = \frac{3.11665 \times 4.0 \text{ wt}}{0.201 \text{ kg} \times (.98)} = 635 \text{ ug}$

Acet =  $\frac{4.77810 \times 1.0 \text{ wt}}{0.212 \text{ kg}} = 956 \text{ ug}$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID: OC-SB-412-6.0/7.0-XXX MS Lab Sample ID: 360-24173-11 MS  
Matrix: Solid Lab File ID: 1H24M14.d  
Analysis Method: 8315A Date Collected: 08/18/2009 12:55  
Extract. Method: 8315\_S\_Prep Date Extracted: 08/23/2009 15:46  
Sample wt/vol: 20.35(g) Date Analyzed: 08/24/2009 14:18  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 13.5 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 60196 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 1100		110	89
75-07-0	Acetaldehyde	751		230	33

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3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M14.d  
Lab Smp Id: 360-24173G11C MS Client Smp ID: 24173-11MS  
Inj Date : 24-AUG-2009 14:18  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173G11C MS  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.350	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	96966	4.82143	948	
2 Acetaldehyde	4.016	4.000	0.016	32472	3.30563	650	

✓  
calc check

$$\frac{4.82 \times 4}{0.2035} = \frac{947}{.825} \approx 1095$$

UR 3/19/10

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1 Analy Batch No.: 60472  
 SDG No.: OCRI-01  
 Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N  
 Calibration Start Date: 09/02/2009 11:33 Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	✓ 32796 18228	23340	20181	✓ 18562	Lin	0	17970							1.0000		0.9900
Acetaldehyde	✓ 9970.0 9320.3	9308.0	8914.8	✓ 9275.7	Ave		9358				✓ 4.1		20.0			

✓  
cal checked  
CR  
3/19/10

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

Analy Batch No.: 60472

SDG No.: OCRI-01

Instrument ID: LCM

GC Column: LC-C18 ID: \_\_\_\_\_ Heated Purge: (Y/N) N

Calibration Start Date: 09/02/2009 11:33

Calibration End Date: 09/02/2009 12:20 Calibration ID: 275

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60472/6	1I02M2.d
Level 2	IC 640-60472/7	1I02M3.d
Level 3	IC 640-60472/8	1I02M4.d
Level 4	IC 640-60472/9	1I02M5.d
Level 5	IC 640-60472/10	1I02M6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT WINDOW	AVG RT
Formaldehyde	✓ 2.933	2.933	2.933	2.933	2.933						2.783 - 3.083	2.933
Acetaldehyde	✓ 3.967	3.967	3.967	3.967	3.950						3.800 - 4.100	3.963

ch  
3/19/10

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓/16768		✓ 2.30	2.50	-7.9	15.0
Acetaldehyde	Ave	7548	✓ 6916		✓ 2.29	2.50	-8.4	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-59851/14 Calibration Date: 08/19/2009 15:22  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H19M15.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.95	2.80	3.10
Acetaldehyde	✓ 3.98	3.83	4.13

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M15.d  
Lab Smp Id: M3.59780 Client Smp ID: M3.59780  
Inj Date : 19-AUG-2009 15:22  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : M3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 04-Sep-2009 14:04 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

*Call check CP 3/19/16*

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	41919	2.50000	2.30	✓
2 Acetaldehyde	3.983	3.983	0.000	17290	2.50000	2.29	✓

$$\text{Acetaldehyde} = \frac{6916}{7348} \times 2.5 = 2.29 \text{ ug}$$

$$\text{Cml} = \frac{17290}{9518} = 2.29$$

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60348/1 Calibration Date: 08/20/2009 11:16

Instrument ID: LCM Calib Start Date: 08/19/2009 08:49

GC Column: LC-C18 ID: Calib End Date: 08/19/2009 09:36

Lab File ID: 1H20M2.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 17335		✓ 2.39	2.50	✓ -4.2	15.0
Acetaldehyde	Ave	7548	7336		2.43	2.50	-2.8	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60348/1 Calibration Date: 08/20/2009 11:16

Instrument ID: LCM Calib Start Date: 08/19/2009 08:49

GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/19/2009 09:36

Lab File ID: 1H20M2.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	3.98	3.83	4.13

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMU1.i\1MH209.b\1H20M2.d  
Lab Smp Id: M3.59780 Client Smp ID: M3.59780  
Inj Date : 20-AUG-2009 11:16  
Operator : DS Inst ID: TLCMU1.i  
Smp Info : M3.59780  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMU1.i\1MH209.b\8315\_A&F.m  
Meth Date : 20-Aug-2009 11:31 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	43337	2.50000	2.39	
2 Acetaldehyde	3.983	3.983	0.000	18340	2.50000	2.43	

$$\text{Act conc} = \frac{18340}{7548} = 2.43 \text{ ug/ml}$$
$$\text{On } 3/19/10$$

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60348/8

Calibration Date: 08/20/2009 13:52

Instrument ID: LCM

Calib Start Date: 08/19/2009 08:49

GC Column: LC-C18

ID: \_\_\_\_\_

Calib End Date: 08/19/2009 09:36

Lab File ID: 1H20M9.d

Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	19813	✓ 14680		11.4	12.5	✓ -8.4	15.0
Acetaldehyde	Ave	7548	7219		12.0	12.5	-4.4	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60348/8 Calibration Date: 08/20/2009 13:52  
Instrument ID: LCM Calib Start Date: 08/19/2009 08:49  
GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/19/2009 09:36  
Lab File ID: 1H20M9.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.95	2.80	3.10
Acetaldehyde	✓ 3.98	3.83	4.13

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60196/19 Calibration Date: 08/24/2009 16:04

Instrument ID: LCM Calib Start Date: 08/24/2009 11:21

GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 08/24/2009 12:08

Lab File ID: 1H24M23.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin2	22569	19801		✓ 2.32	2.50	-7.2	15.0
Acetaldehyde	Lin2	10332	9338		✓ 2.33	2.50	-6.7	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60196/19 Calibration Date: 08/24/2009 16:04

Instrument ID: LCM Calib Start Date: 08/24/2009 11:21

GC Column: LC-C18 ID: Calib End Date: 08/24/2009 12:08

Lab File ID: 1H24M23.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.97	2.82	3.12
Acetaldehyde	✓ 4.02	3.85	4.15

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M23.d

Lab Smp Id: CCVRT

Client Smp ID: M3.59966

Inj Date : 24-AUG-2009 16:04

Inst ID: TLCMUV1.i

Operator : RD

Smp Info : M3.59966

Misc Info : 8315A

Comment :

Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m

Meth Date : 03-Sep-2009 14:36 TLCMUV1.i Quant Type: ESTD

Cal Date : 24-AUG-2009 12:08

Cal File: 1H24M6.d

Als bottle: 1

Continuing Calibration Sample

Dil Factor: 1.00000

Compound Sublist: 831509J.sub

Integrator: Falcon

Target Version: 4.14

Processing Host: TALLM05A

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
	=====	=====	=====	=====	=====	=====	=====
1 Formaldehyde	2.966	2.966	0.000	49502	2.50000	2.32	
2 Acetaldehyde	4.016	4.016	0.000	23346	2.50000	2.33	

*Cal check  
2.47 ug/ml based on Excel Regression*

*Formaldehyde  
on  
3/19/10*

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60477/28 Calibration Date: 09/03/2009 09:58

Instrument ID: LCM Calib Start Date: 09/02/2009 11:33

GC Column: LC-C18 ID: Calib End Date: 09/02/2009 12:20

Lab File ID: 1I03M1.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	22621	19617		2.36	2.50	-5.7	15.0
Acetaldehyde	Ave	9358	8594		2.30	2.50	-8.2	15.0

W  
3/19/10

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Lab Sample ID: CCVRT 640-60477/28

Calibration Date: 09/03/2009 09:58

Instrument ID: LCM

Calib Start Date: 09/02/2009 11:33

GC Column: LC-C18

ID: \_\_\_\_\_

Calib End Date: 09/02/2009 12:20

Lab File ID: 1I03M1.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.93	2.78	3.08
Acetaldehyde	✓ 3.95	3.82	4.12

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M1.d  
Lab Smp Id: M3.60361 Client Smp ID: M3.60361  
Inj Date : 03-SEP-2009 09:58  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M3.60361  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 10:26 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	49042	2.50000	2.36	
2 Acetaldehyde	3.950	3.950	0.000	21486	2.50000	2.30	

*Calc Check 2.37*  
*CK*  
*3/19/10*

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Lab Sample ID: CCVRT 640-60477/9 Calibration Date: 09/03/2009 13:29  
Instrument ID: LCM Calib Start Date: 09/02/2009 11:33  
GC Column: LC-C18 ID: \_\_\_\_\_ Calib End Date: 09/02/2009 12:20  
Lab File ID: 1I03M18.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.93	2.78	3.08
Acetaldehyde	3.97	3.82	4.12

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M8.d  
Lab Smp Id: LCS 640-59772/2A Client Smp ID: 59772MBLCS  
Inj Date : 19-AUG-2009 14:00  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59772/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.950	-0.017	66759	3.90728	781	
2 Acetaldehyde	3.966	3.983	-0.017	26897	3.56338	713	

✓ checked  
3/19/10  
3.907 ug/kg = 781  
3.56338 ug/kg = 713

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\1H20M4.d  
Lab Smp Id: LCS 640-59827/2A Client Smp ID: 59827MBLCS  
Inj Date : 20-AUG-2009 12:47  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59827/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH209.b\8315\_A&F.m  
Meth Date : 22-Aug-2009 22:36 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	63467	3.69472	148	=====
2 Acetaldehyde	3.983	3.983	0.000	25958	3.43898	138	=====

$$\text{Act} = \frac{25958}{7548} = \frac{3.43 \times 40}{10} = 138$$

3/12/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M9.d  
Lab Smp Id: LCS 640-59857/2A Client Smp ID: 59857MBLCS  
Inj Date : 24-AUG-2009 13:19  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCS 640-59857/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE:
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	70335	3.41833	684	✓
2 Acetaldehyde	4.016	4.000	0.016	32005	3.25584	651	

CH  
3/19/10  
3.50  
Bands in Excel LR  
3.42 + 0.02 = 3.44

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID:  Lab Sample ID: LCS 640-60315/2-A  
Matrix: Solid Lab File ID: 1I03M4.d  
Analysis Method: 8315A Date Collected:   
Extract. Method: 8315\_S\_Prep Date Extracted: 09/01/2009 07:38  
Sample wt/vol: 20.0(g) Date Analyzed: 09/03/2009 10:44  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10(uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 60477 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	700		100	78
75-07-0	Acetaldehyde	621		200	29

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\1I03M4.d  
Lab Smp Id: LCS 640-60315/2A Client Smp ID: 60315MBLCS  
Inj Date : 03-SEP-2009 10:44  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCS 640-60315/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI039.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 13:19 rdriver Quant Type: ESTD  
Cal Date : 02-SEP-2009 12:20 Cal File: 1I02M6.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.933	2.933	0.000	69564	3.49825	700	
2 Acetaldehyde	3.950	3.950	0.000	29037	3.10299	620	

Calc 3.52 based off Excel  
$$\frac{3.52 \text{ ug/ml}}{4 \text{ ml}} = 700$$
$$\frac{3.5 \text{ ug/ml}}{0.02 \text{ kg}} = 175$$

on  
3/19/10

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24173-1  
SDG No.: OCRI-01  
Client Sample ID: OC-SB-416-0.0/1.0-XXX MS Lab Sample ID: 360-24173-4 MS  
Matrix: Solid Lab File ID: 1H19M11.d  
Analysis Method: 8315A Date Collected: 08/18/2009 10:35  
Extract. Method: 8315\_S\_Prep Date Extracted: 08/19/2009 10:40  
Sample wt/vol: 20.3(g) Date Analyzed: 08/19/2009 14:35  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 3.2 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59851 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 973		100	79
75-07-0	Acetaldehyde	✓ 635		200	30

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
 Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\1H19M11.d  
 Lab Smp Id: 360-24173F4B MS Client Smp ID: 24173-4MS  
 Inj Date : 19-AUG-2009 14:35  
 Operator : DS Inst ID: TLCMUV1.i  
 Smp Info : 360-24173F4B MS  
 Misc Info : 8315A  
 Comment :  
 Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH199.b\8315\_A&F.m  
 Meth Date : 19-Aug-2009 15:49 smithdn Quant Type: ESTD  
 Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
 Als bottle: 1 QC Sample: MS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 831509.sub  
 Target Version: 4.14  
 Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

N cal  
3/9/10

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	80246	4.77810	956	
2 Acetaldehyde	3.983	3.983	0.000	23525	3.11665	623	

$$\begin{aligned}
 \text{Act} &= \frac{23525}{7548} = \frac{3.11665 \times 40 \text{ ug}}{0.201 \text{ kg} \times (.98)} = 635 \text{ ug} \\
 &\quad \text{4.77810} + \text{4.77810} = 956 \text{ ug/kg}
 \end{aligned}$$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee

Job No.: 360-24173-1

SDG No.: OCRI-01

Client Sample ID: OC-SB-412-6.0/7.0-XXX MS

Lab Sample ID: 360-24173-11 MS

Matrix: Solid

Lab File ID: 1H24M14.d

Analysis Method: 8315A

Date Collected: 08/18/2009 12:55

Extract. Method: 8315\_S\_Prep

Date Extracted: 08/23/2009 15:46

Sample wt/vol: 20.35(g)

Date Analyzed: 08/24/2009 14:18

Con. Extract Vol.: 4.0 (mL)

Dilution Factor: 1

Injection Volume: 10 (uL)

Level: (low/med) Low

% Moisture: 13.5

GPC Cleanup: (Y/N) N

Analysis Batch No.: 60196

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 1100		110	89
75-07-0	Acetaldehyde	751		230	33

UN  
3/19/10

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\1H24M14.d  
Lab Smp Id: 360-24173G11C MS Client Smp ID: 24173-11MS  
Inj Date : 24-AUG-2009 14:18  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24173G11C MS  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MH249.b\8315\_A&F.m  
Meth Date : 03-Sep-2009 14:18 TLCMUV1.i Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.350	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	96966	4.82143	948	
2 Acetaldehyde	4.016	4.000	0.016	32472	3.30563	650	

✓ calc check

$$\frac{4.82 \times 1}{0.2035} = \frac{947}{.825} = 1095$$

CR 3/19/10

**Ricardi, Christian**

---

**From:** Mason, Becky [Becky.Mason@testamericainc.com]  
**Sent:** Wednesday, March 24, 2010 3:36 PM  
**To:** Ricardi, Christian  
**Subject:** FW: MACTEC-Olin formaldehyde data question

This is what I received from Tallassee. Do you need more information?

Becky

---

**From:** Savoie, Noel  
**Sent:** Wednesday, March 24, 2010 12:43 PM  
**To:** Mason, Becky  
**Subject:** FW: MACTEC-Olin formaldehyde data question

I hope this makes sense to you.

---

**From:** Driver, Rob  
**Sent:** Wednesday, March 24, 2010 11:37 AM  
**To:** Savoie, Noel  
**Subject:** RE: MACTEC-Olin formaldehyde data question

The derivitization in 8315 always generates a background level or artifact of formaldehyde. Every extract contains it. Our calibration curve is extracted, and when the result is plotted, the Y intercept is positively offset from the origin. Therefore, most of the blank's responses will quantitate to zero.

-----Original Message-----

**From:** Savoie, Noel  
**Sent:** Wednesday, March 24, 2010 11:04 AM  
**To:** Driver, Rob  
**Cc:** Schneider, Lou  
**Subject:** FW: MACTEC-Olin formaldehyde data question

---

**From:** Mason, Becky  
**Sent:** Wednesday, March 24, 2010 11:03 AM  
**To:** Savoie, Noel  
**Subject:** FW: MACTEC-Olin formaldehyde data question

Hi Noel

Can you have someone take a look at this? do you know when you will have info out the holding time?

Becky

---

**From:** Ricardi, Christian [mailto:[CSRicardi@mactec.com](mailto:CSRicardi@mactec.com)]  
**Sent:** Wednesday, March 24, 2010 10:54 AM  
**To:** Mason, Becky  
**Subject:** MACTEC-Olin formaldehyde data question

Hi Becky,

I have another request for some additional information regarding the formaldehyde analyses. I am reviewing data sets 24173 and 24686 first. These are the first and last soil sets collected during the Fall 2009 soil investigation. We are observing low concentration detections of formaldehyde in nearly all our soil samples and I am trying to gather as much information as possible to evaluate these results. We are getting some detections in our equipment blanks. I also notice that there are small peaks evident in the method blanks that are not being quantified on the raw data reports off the instrument. I understand that the method blank concentration may be below the MDL and that the response may be below the threshold set up on the data processor. But I would like to see if TAL could go back to these packages and manually integrate peaks for all the method blanks in these SDGs to provide area counts and concentrations for formaldehyde in the method blanks. We do not need to revise the reports. I just want a second quantitation report with the additional integrated peak data on it, and/or the chromatogram with the peak area and concentration on it for each blank.

Please let me know when you think TAL will be able to provide this additional information.

Thanks,

**Chris Ricardi, NRCC-EAC**  
Senior Environmental Scientist  
MACTEC Engineering and Consulting  
511 Congress Street  
Portland, Maine 04112-7050  
207 775-5401 X3694  
Fax 207 772-4762

**Ricardi, Christian**

---

**From:** Mason, Becky [Becky.Mason@testamericainc.com]  
**Sent:** Monday, March 29, 2010 11:30 AM  
**To:** Ricardi, Christian  
**Subject:** FW: 8315 Raw Data  
**Attachments:** 360-24686 8315 RAW DATA.pdf; 360-24173 8315 RAW DATA.pdf

---

**From:** Ewald, Kay  
**Sent:** Monday, March 29, 2010 11:25 AM  
**To:** Mason, Becky  
**Cc:** Savoie, Noel  
**Subject:** 8315 Raw Data

Hello Becky – I am sending you the 8315 raw data for 360-24173 and 360-24686. Please let us know if you have any questions.

Thanks,  
Kay

**Kay Ewald**  
Project Manager Assistant

TestAmerica  
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2846 Industrial Plaza Drive  
Tallahassee, FL 32301  
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[www.testamericainc.com](http://www.testamericainc.com)

## Ricardi, Christian

**From:** Reynolds, Chris [Chris.Reynolds@testamericainc.com]  
**Sent:** Wednesday, April 28, 2010 3:04 PM  
**To:** Ricardi, Christian; Driver, Rob  
**Cc:** Cunningham, Tige; Thompson, Peter; Hartmann, Steve  
**Subject:** RE: Olin formaldehyde questions

Hello everyone,

Looks like 9:00 will be a good time to meet. Please use the following number and access code:

(712) 432-0111

500386#

Look forward to meeting with you all tomorrow.

Christine

Christine Furciniti-Reynolds

QA Manager  
TestAmerica

**From:** Ricardi, Christian [mailto:CSRicardi@mactec.com]

**Sent:** Wednesday, April 28, 2010 2:58 PM

**To:** Reynolds, Chris

**Cc:** Cunningham, Tige; Thompson, Peter

**Subject:** RE: Olin formaldehyde questions

Hi Chris,

I will be able to make a call tomorrow at 9 AM. Thanks.

Chris Ricardi, NRCC-EAC

Senior Environmental Scientist  
MACTEC Engineering and Consulting  
511 Congress Street  
Portland, Maine 04112-7050  
207 775-5401 X3694  
Fax 207 772-4762

- Organics Soils  $\rightarrow$  Artifact
- extraction fluid only in MBK
- Some Methods allow blank subtraction.
- Natural formaldehyde

[ HT - 7 days ]

[ Blank areas/Quant ]

**From:** Reynolds, Chris [mailto:Chris.Reynolds@testamericainc.com]

**Sent:** Wednesday, April 28, 2010 2:26 PM

**To:** Ricardi, Christian

**Subject:** Olin formaldehyde questions

Hello Mr. Ricardi,

We have been in contact with Rob Driver in the Tallahassee lab and he would be available tomorrow morning say 9:00 to discuss the questions you have with regards to Formaldehyde...  
Please let me know if this time work for you. If so I will forward a call in number. Steve asked that I sit in on the call as he will be out of the office on Thursday.

Thanks

Christine

**Christine Furcinite-Reynolds  
Quality Assurance Manager**

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
53 Southampton Road

Westfield, MA 01085  
Tel 413.572.4000  
[www.testamericainc.com](http://www.testamericainc.com)

Data File: 2I23M24.d  
 Report Date: 29-Mar-2010 10:47

310.24686

### TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
 Data file : \\Talsvr05\chem\LC\TLCMU1.i\Archive09\m.09.2009\1MI249.b\2I23M2  
 Lab Smp Id: MB 640-61125/1A Client Smp ID: 61125MB  
 Inj Date : 24-SEP-2009 17:02 Inst ID: TLCMU1.i  
 Operator : RD  
 Smp Info : MB 640-61125/1A  
 Misc Info : 8315A  
 Comment :  
 Method : \\Talsvr05\chem\LC\TLCMU1.i\Archive09\m.09.2009\1MI249.b\8315\_A  
 Meth Date : 29-Mar-2010 10:47 rdriver Quant Type: ESTD  
 Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
 Als bottle: 1 QC Sample: BLANK  
 Dil Factor: 1.00000 Compound Sublist: 8315z.sub  
 Integrator: Falcon  
 Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariab

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	62846	0.07546	15.1(a)	
2 Acetaldehyde	4.016	4.016	0.000	10103	0.09968	19.9(a)	

### QC Flag Legend

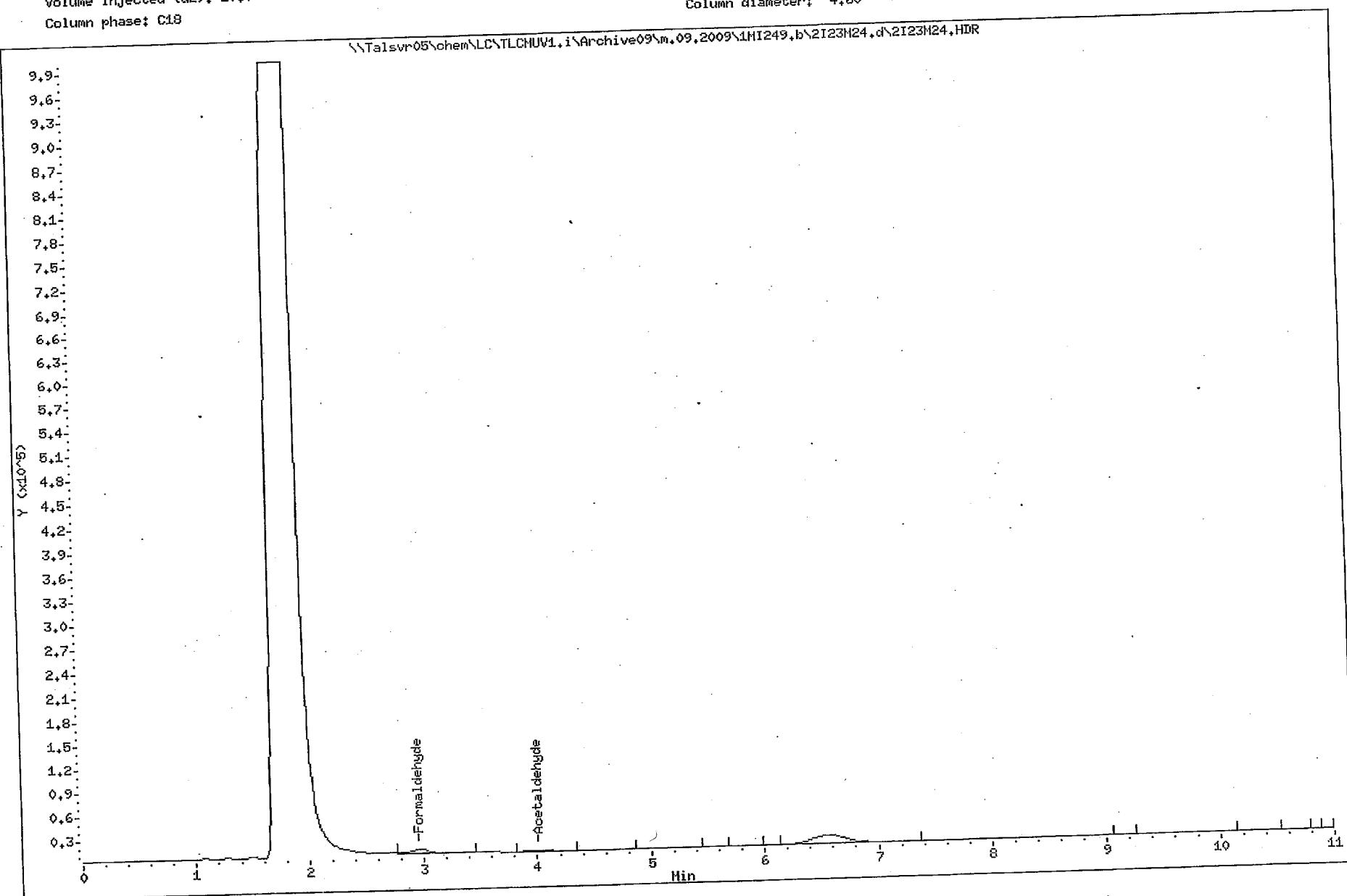
a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.09.2009\1HI249.b\2I23M24.d  
Date: 24-SEP-2009 17:02  
Client ID: 61125MB  
Sample Info: MB 640-61125/1A  
Volume Injected (uL): 10.0  
Column phase: C18

Instrument: TLCHUV1.i

Operator: RD  
Column diameter: 4.60

\\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.09.2009\1HI249.b\2I23M24.d\2I23M24.HDR



Data File: 2I23M3.d  
 Report Date: 29-Mar-2010 11:02

360.24486

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUv1.i\Archive09\m.09.2009\2MI239.b\2I23M3  
 Lab Smp Id: MB 640-60973/1A Client Smp ID: 60973MB  
 Inj Date : 23-SEP-2009 17:30 Inst ID: TLCMUv1.i  
 Operator : RD  
 Smp Info : MB 640-60973/1A  
 Misc Info : 8315A  
 Comment : \\Talsvr05\chem\LC\TLCMUv1.i\Archive09\m.09.2009\2MI239.b\8315\_A  
 Method : \\Talsvr05\chem\LC\TLCMUv1.i\Archive09\m.09.2009\2MI239.b\8315\_A Quant Type: ESTD  
 Meth Date : 29-Mar-2010 11:01 rdriver Cal File: 1I22M13.d  
 Cal Date : 22-SEP-2009 16:36 QC Sample: BLANK  
 Als bottle: 1  
 Dil Factor: 1.00000 Compound Sublist: 8315z.sub  
 Integrator: Falcon  
 Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	103450	0.29677	11.9(a)	
2 Acetaldehyde	4.000	4.000	0.000	11898	0.11739	4.70(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m,09,2009\2MI239.b\2I23M3.d

Date : 23-SEP-2009 17:30

Client ID: 60973MB

Sample Info: NB 640-60973/1A

Volume Injected (uL): 10.0

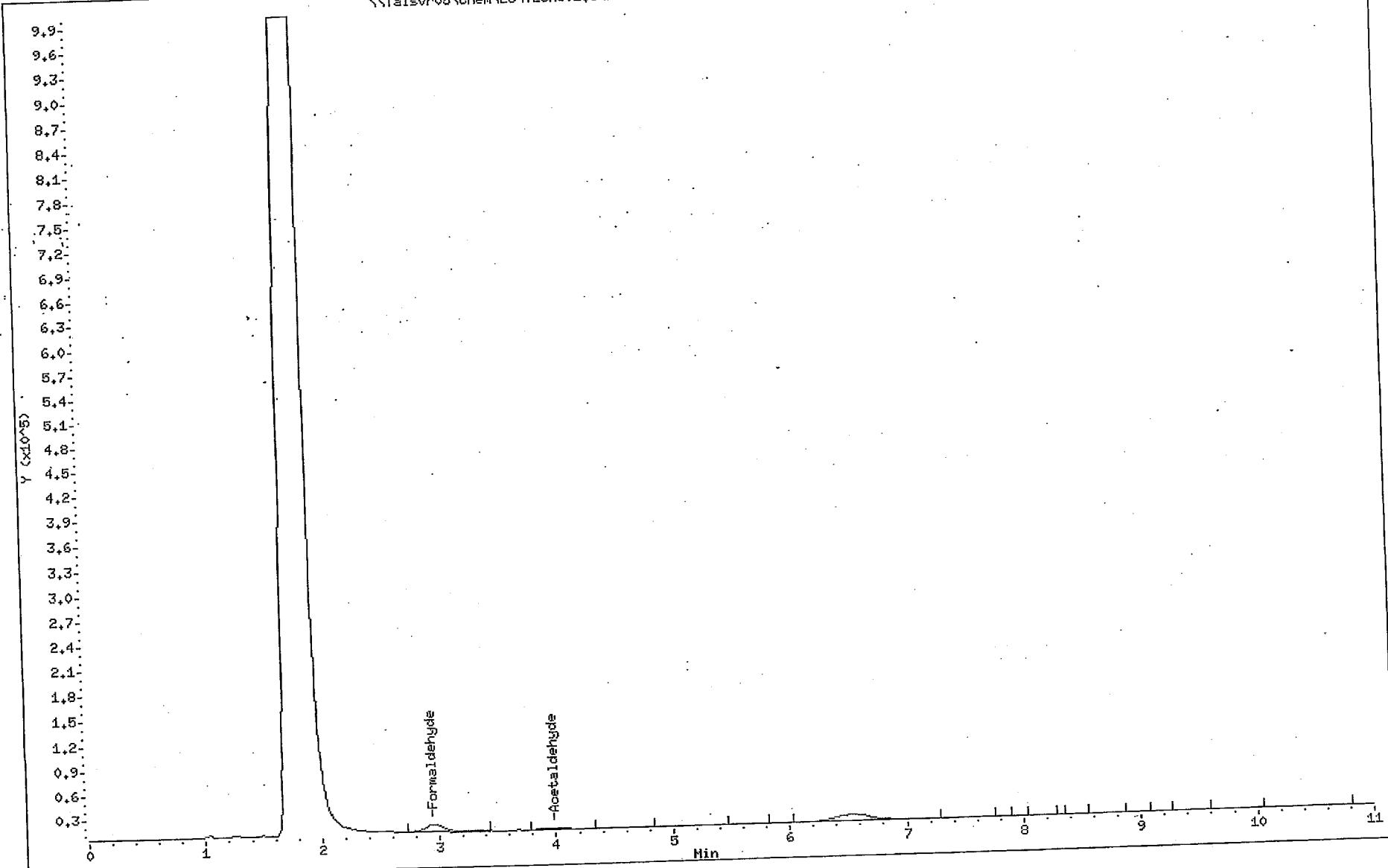
Column phase: C18

Instrument: TLCHUV1.i

Operator: RD

Column diameter: 4.60

\\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m,09,2009\2MI239.b\2I23M3.d\2I23M3.HDR



360.24686

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.09.2009\2MI239.b\2I23M6  
Lab Smp Id: 360-24686-J-20-A Client Smp ID: OC-EBK-012  
Inj Date : 23-SEP-2009 18:05  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-J-20-A OL-EBK-012  
Misc Info : 360-24686-J-20-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.09.2009\2MI239.b\8315\_A  
Meth Date : 29-Mar-2010 11:01 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 8315z.sub  
Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	( ug/L)	
1 Formaldehyde	2.966	2.950	0.016	102515	0.29167	11.7(a)	
2 Acetaldehyde	4.016	4.000	0.016	8063	0.07956	3.18(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.09,2009\2HI239.b\2I23M6.d

Date : 23-SEP-2009 18:05

Client ID: OC-EBK-012

Sample Info: 360-24686-J-20-A

Volume Injected (uL): 10.0

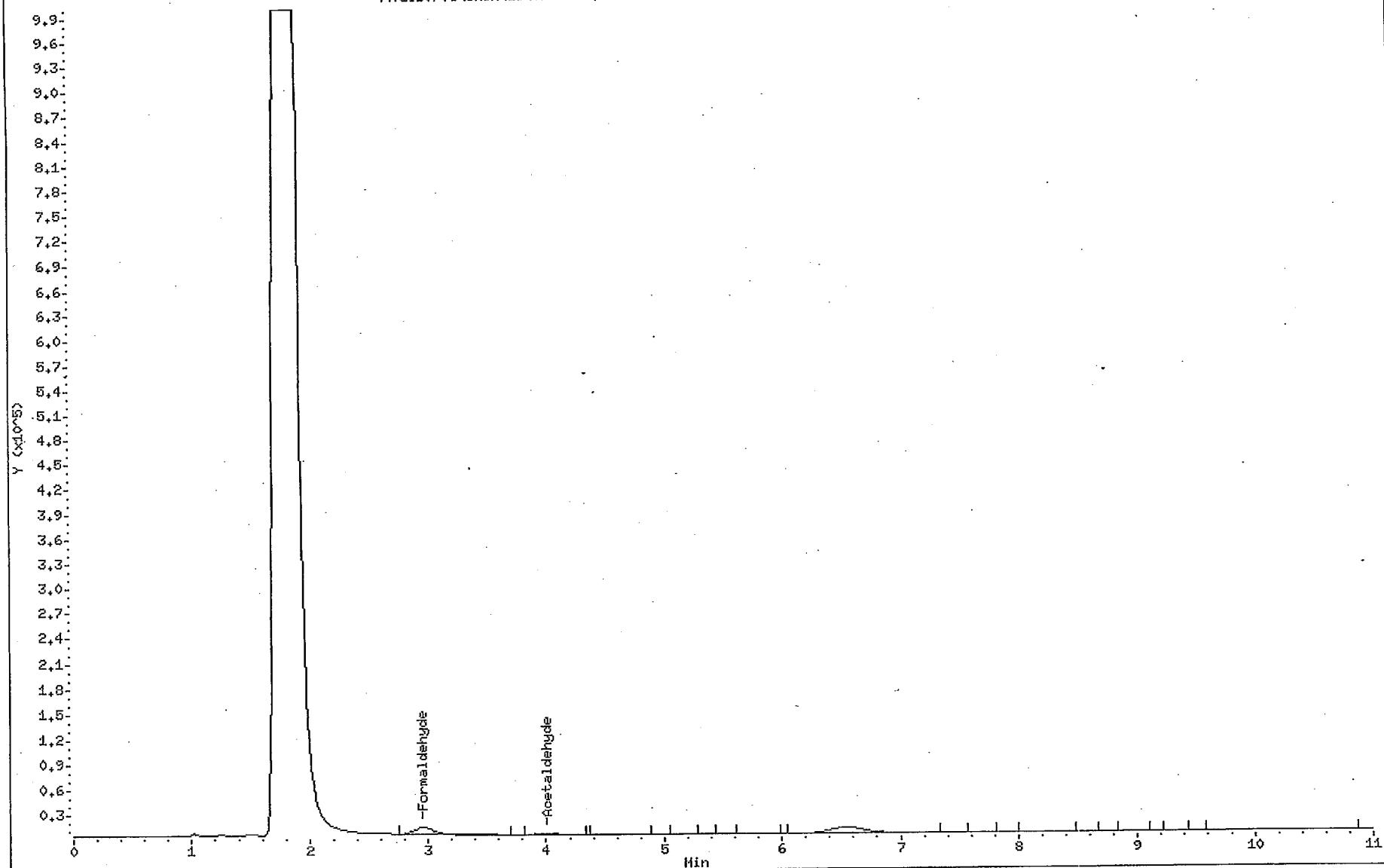
Column phase: C18

Instrument: TLCHUV1.i

Operator: RD

Column diameter: 4.60

\\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.09,2009\2HI239.b\2I23M6.d\2I23M6.HDR



360.2473

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.08.2009\1MH209.b\1H20M3  
Lab Smp Id: MB 640-59827/1A Client Smp ID: 59827MB  
Inj Date : 20-AUG-2009 12:35  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : MB 640-59827/1A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.08.2009\1MH209.b\8315\_A  
Meth Date : 22-Aug-2009 22:36 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					(ug/ml)	( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	3282			(a)
2 Acetaldehyde	3.983	3.983	0.000	489	0.06478	2.59(a)	

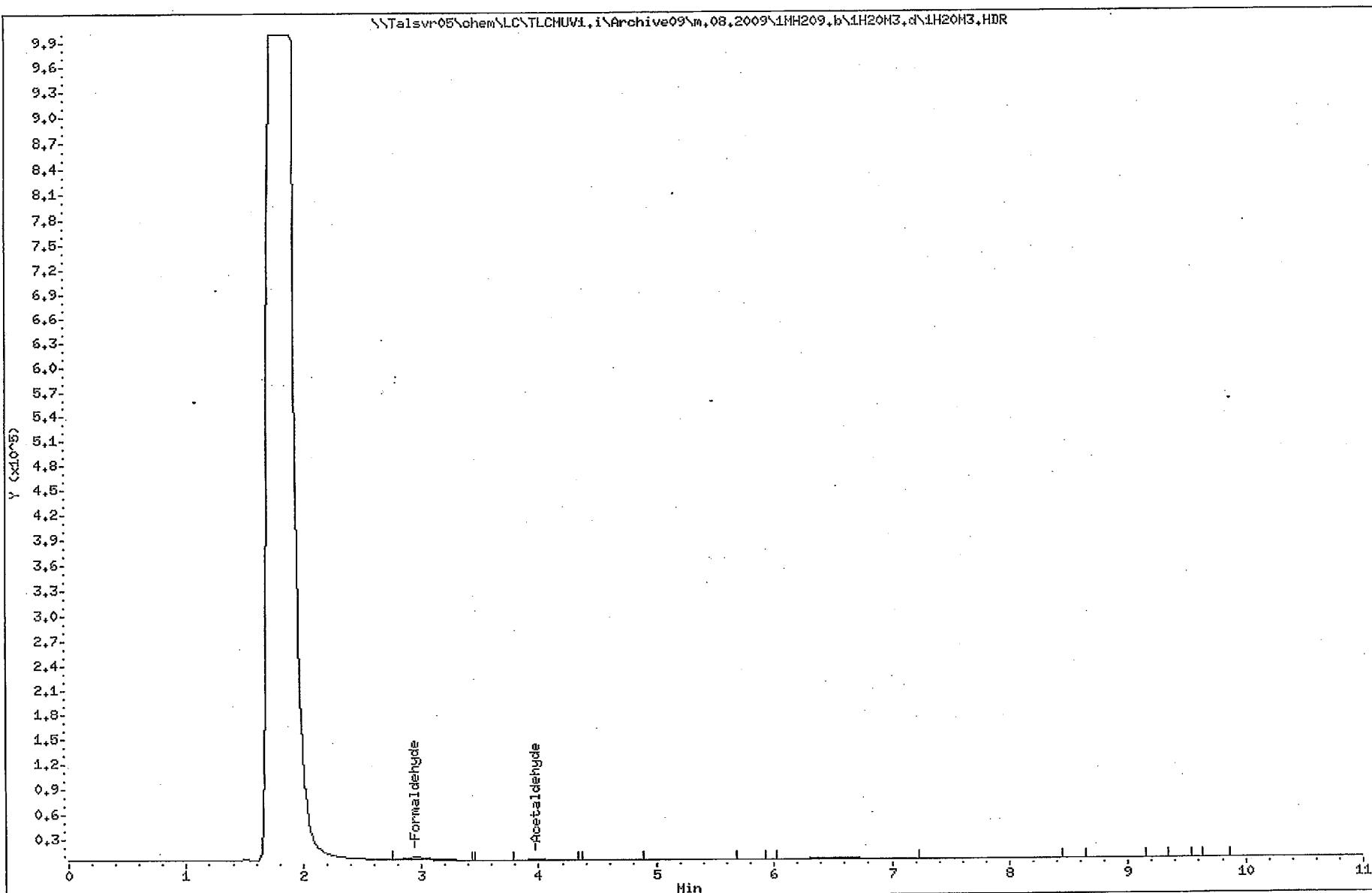
QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m\_08,2009\1HH209.b\1H20H3.d  
Date: 20-AUG-2009 12:35  
Client ID: 59827HB  
Sample Info: MB 640-59827/1A  
Volume Injected (uL): 10.0  
Column phase: C18

Instrument: TLCHUV1.i  
Operator: DS  
Column diameter: 4.60

Page 2



360.24173

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMU1.i\Archive09\m.08.2009\1MH209.b\1H20M8  
Lab Smp Id: 360-24173-K-8-A Client Smp ID: 24173-8  
Inj Date : 20-AUG-2009 13:34  
Operator : DS Inst ID: TLCMU1.i  
Smp Info : 360-24173-K-8-A OC-EBK-001  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMU1.i\Archive09\m.08.2009\1MH209.b\8315\_A  
Meth Date : 22-Aug-2009 22:36 rdriver Quant Type: ESTD  
Cal Date : 19-AUG-2009 09:36 Cal File: 1H19M6.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509.sub  
Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	5398			(a)
2 Acetaldehyde	3.966	3.983	-0.017	893	0.11831	4.73(a)	

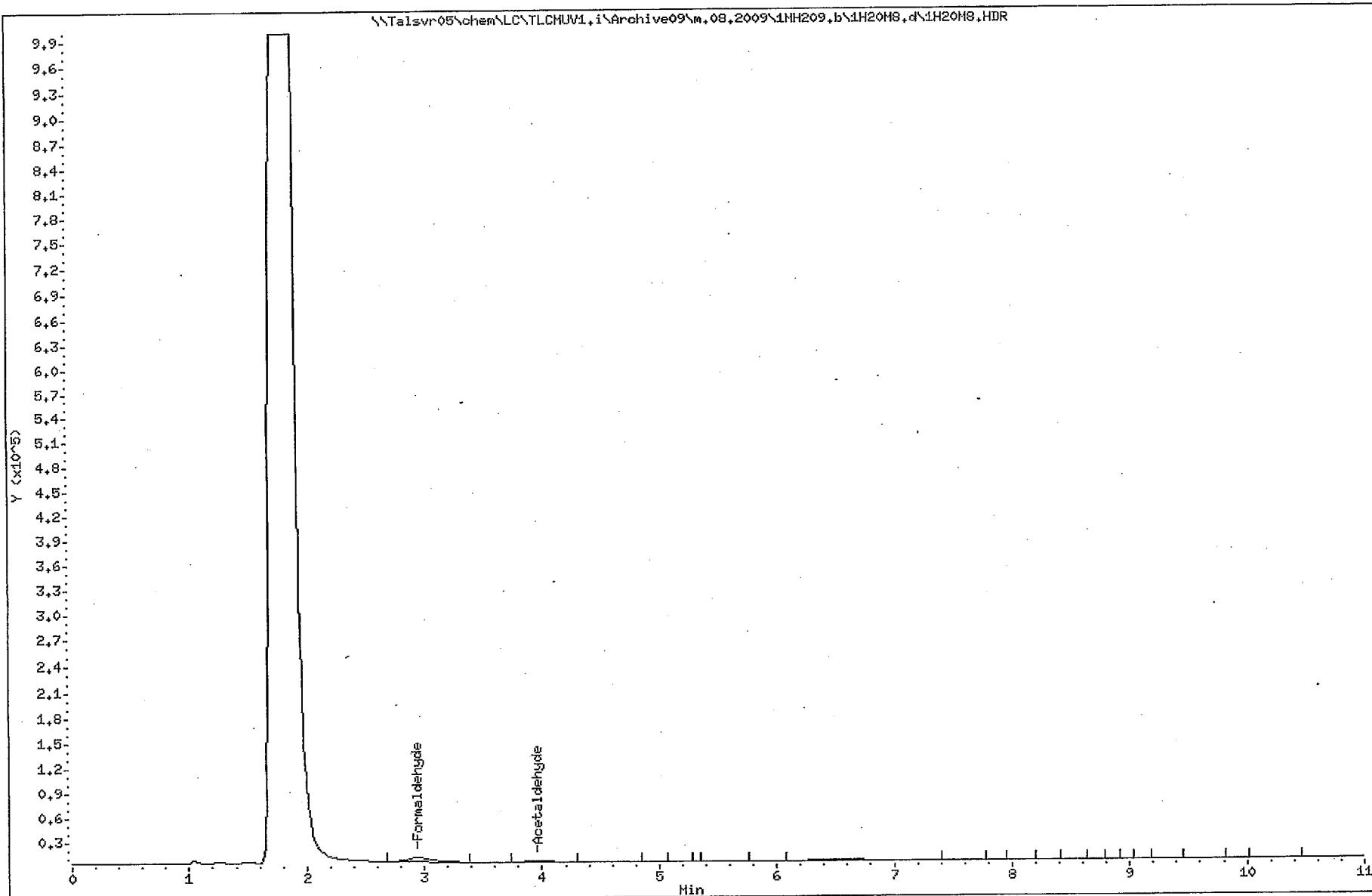
QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.08.2009\1NH209.b\1H20M8.d  
Date : 20-AUG-2009 13:34  
Client ID: 24173-8  
Sample Info: .360-24173-K-8-A  
Volume Injected (uL): 10.0  
Column phase: C18

Instrument: TLCHUV1.i  
Operator: DS  
Column diameter: 4.60

\\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m.08.2009\1NH209.b\1H20M8.d\1H20M8.HDR



360.24173

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.08.2009\1MH249.b\1H24M8  
Lab Smp Id: MB 640-59857/1A Client Smp ID: 59857MB  
Inj Date : 24-AUG-2009 13:07  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : MB 640-59857/1A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.08.2009\1MH249.b\8315\_A  
Meth Date : 29-Mar-2010 10:36 rdriver Quant Type: ESTD  
Cal Date : 24-AUG-2009 12:08 Cal File: 1H24M6.d  
Als bottle: 1 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 8315Z.sub  
Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariab

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.966	0.000	10164	0.24814	49.6(a)	
2 Acetaldehyde	4.016	4.000	0.016	1205		(a)	

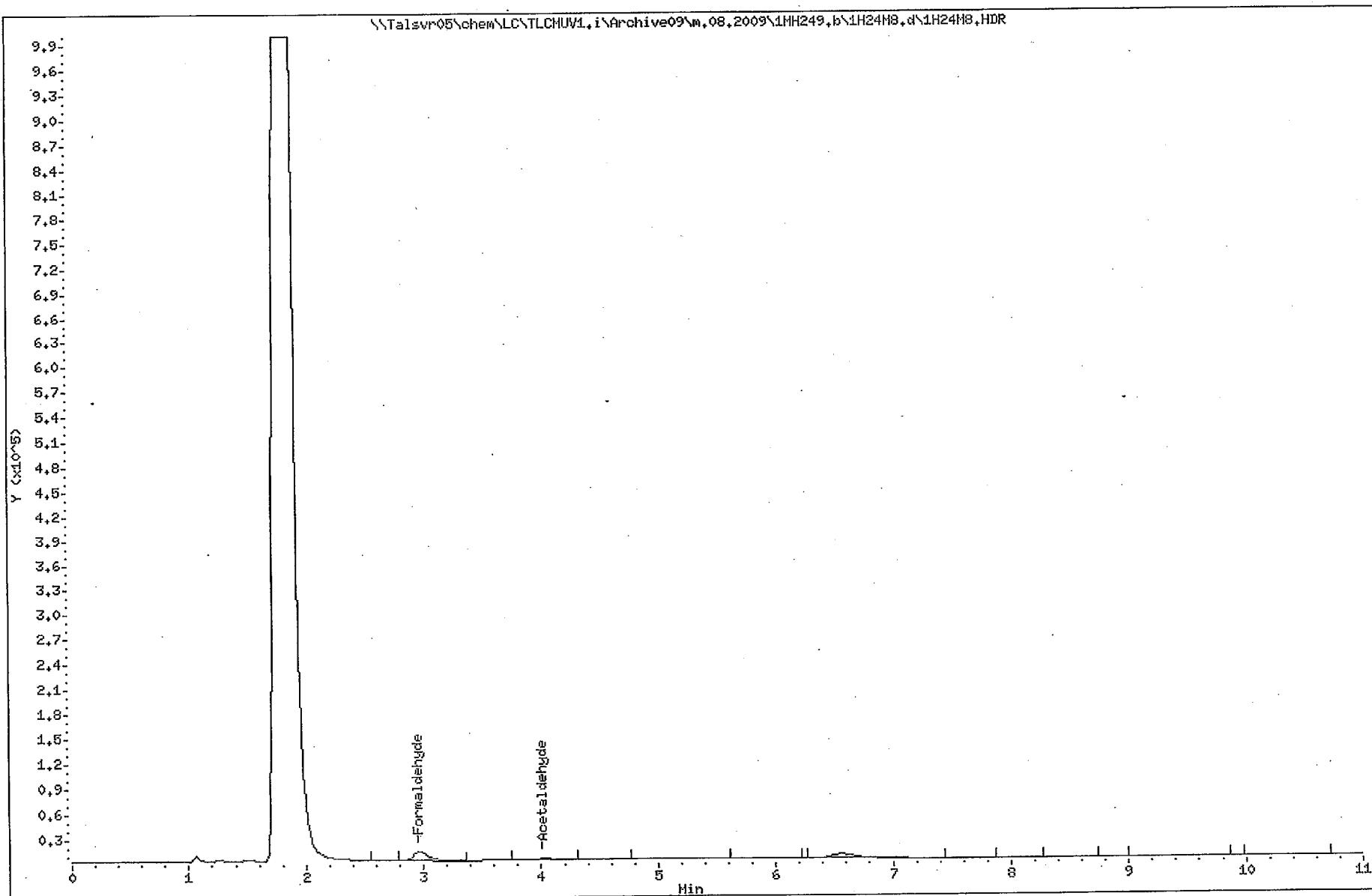
QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m,08,2009\1MH249.b\1H24M8.d  
Date : 24-AUG-2009 13:07  
Client ID: 59857HB  
Sample Info: MB 640-59857/1A  
Volume Injected (uL): 10.0  
Column phase: C18

Instrument: TLCHUV1.i  
Operator: RD  
Column diameter: 4.60

Page 2



Data File: 1I03M3.d  
 Report Date: 29-Mar-2010 10:40

360.24.73

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.09.2009\1MI039.b\1I03M3  
 Lab Smp Id: MB 640-60315/1A Client Smp ID: 60315MB  
 Inj Date : 03-SEP-2009 10:32 Inst ID: TLCMUV1.i  
 Operator : RD  
 Smp Info : MB 640-60315/1A  
 Misc Info : 8315A  
 Comment : \\Talsvr05\chem\LC\TLCMUV1.i\Archive09\m.09.2009\1MI039.b\8315\_A  
 Method : Quant Type: ESTD  
 Meth Date : 29-Mar-2010 10:40 rdriver Cal File: 1I02M6.d  
 Cal Date : 02-SEP-2009 12:20 QC Sample: BLANK  
 Als bottle: 1  
 Dil Factor: 1.00000 Compound Sublist: 8315Z.sub  
 Integrator: Falcon  
 Target Version: 4.14

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariab

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN	FINAL	
					(ug/ml)	(ug/Kg)	
1 Formaldehyde	2.933	2.933	0.000	7523	0.04581	9.16(a)	
2 Acetaldehyde	3.966	3.966	0.000	1424	0.15217	30.4(a)	

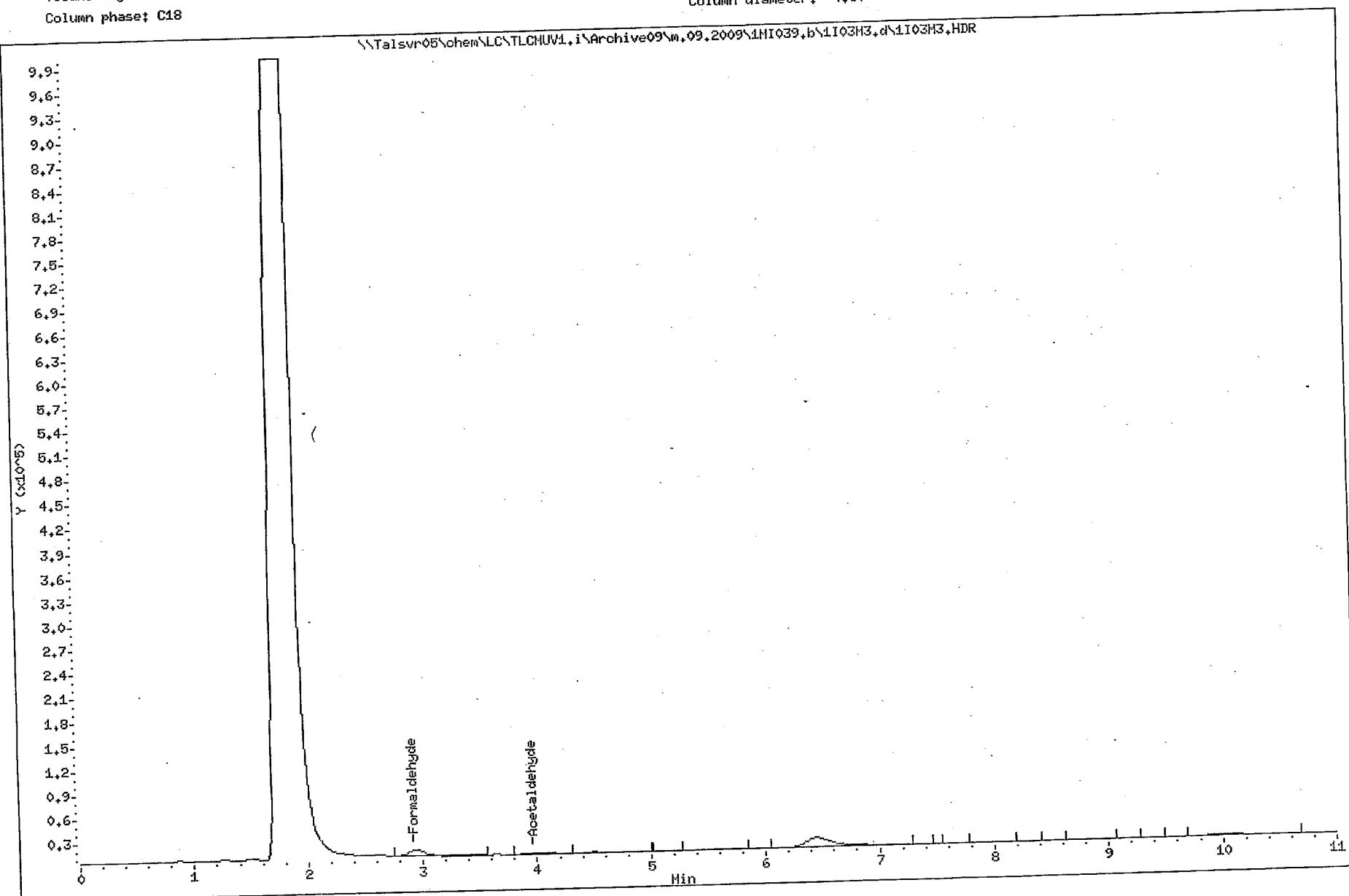
QC Flag Legend

a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).

Data File: \\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m,09,2009\1MI039.b\1I03H3.d  
Date : 03-SEP-2009 10:32  
Client ID: 60315MB  
Sample Info: HB 640-60315/1A  
Volume Injected (uL): 10.0  
Column phase: C18

Instrument: TLCHUV1.i  
Operator: RD  
Column diameter: 4.60

\\Talsvr05\chem\LC\TLCHUV1.i\Archive09\m,09,2009\1MI039.b\1I03H3.d\1I03H3.HDR



# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24194  
Date: 3/24/10      Reviewer: C Ricardi

Chemist Review    Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

No issues identified

## 2. Holding Time and Sample Preservation/Collection

Collected 8/19      Extracted 8/23      4 days

## 3. QC Blanks

EBR 7.1 T Area 8992  
MBK - ND

## 4. Laboratory Control Sample Review (80-120%)

Within limits

## 5. Field Duplicate Precision (30/50)

NA

## 6. Lab Duplicate Precision (20/35)

NA

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

NA

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

Mr. Steven Morrow  
 Olin Corporation  
 3855 North Ocoee Street  
 Suite 200  
 Cleveland, TN 37312-4441

Job Number: 360-24194-1  
 Sdg Number: OCRI-02

**Client Sample ID:** OC-SB-421-0.0/1.0-XXX  
**Lab Sample ID:** 360-24194-1

Date Sampled: 08/19/2009 0740  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8270C LL <b>Run Type:</b> DL2			Date Analyzed: 09/08/2009 1824		
<b>Prep Method:</b> 3546			Date Prepared: 08/20/2009 1253		
Diphenylamine	5000	ug/Kg	100	350	5.0
<b>Method:</b> 8270C LL			Date Analyzed: 09/02/2009 0224		
<b>Prep Method:</b> 3550B			Date Prepared: 08/27/2009 1643		
N-Nitrosodimethylamine	ND	ug/Kg	60	260	10
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	0	X D	%	30 - 130	
2-Fluorobiphenyl	0	X D	%	30 - 130	
2-Fluorophenol	0	X D	%	30 - 130	
Nitrobenzene-d5	0	X D	%	30 - 130	
Phenol-d5	0	X D	%	30 - 130	
Terphenyl-d14	0	X D	%	30 - 130	
<b>Method:</b> 8315A			Date Analyzed: 08/24/2009 1529		
<b>Prep Method:</b> 8315_S_Prep			Date Prepared: 08/23/2009 1546		
Formaldehyde	100	J	ug/Kg 81	100	1.0
Acetaldehyde	ND		ug/Kg 30	210	1.0
<b>Method:</b> LC65			Date Analyzed: 08/24/2009 2014		
<b>Prep Method:</b> LC65			Date Prepared: 08/23/2009 1547		
Phthalic Acid/Phthalic anhydride	ND		ug/Kg 19	100	1.0
<b>Method:</b> 6010B			Date Analyzed: 08/21/2009 1403		
<b>Prep Method:</b> 3050B			Date Prepared: 08/21/2009 0912		
Aluminum	6500	mg/Kg	0.74	2.8	1.0
Antimony	ND	mg/Kg	0.21	0.57	1.0
Arsenic	4.1	mg/Kg	0.10	1.1	1.0
Barium	14	mg/Kg	0.074	0.57	1.0
Beryllium	0.17	J	mg/Kg 0.028	0.23	1.0
Cadmium	0.25		mg/Kg 0.0079	0.23	1.0
Calcium	1100	B	mg/Kg 2.8	23	1.0
Chromium	34		mg/Kg 0.075	0.57	1.0
Cobalt	2.5		mg/Kg 0.074	0.57	1.0
Copper	6.5		mg/Kg 0.074	1.1	1.0
Iron	6500	B	mg/Kg 0.90	5.7	1.0
Lead	10		mg/Kg 0.065	0.57	1.0
Magnesium	1600	B	mg/Kg 0.57	11	1.0
Manganese	70		mg/Kg 0.076	1.1	1.0
Nickel	10	B	mg/Kg 0.074	1.1	1.0
Potassium	720	*	mg/Kg 35	230	1.0
Selenium	ND		mg/Kg 0.27	0.57	1.0

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

**Client Sample ID:** OC-SB-421-10.5/12.5-XXX  
**Lab Sample ID:** 360-24194-2

Date Sampled: 08/19/2009 0805  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Acceptance Limits</b>					
Surrogate		%	70 - 130		
Toluene-d8 (Surr)					
Tentatively Identified Compounds			Cas Number	RT	
Methyl methacrylate	550	ug/Kg	80-62-6	6.53	1.0
Unknown	480	T J	ug/Kg	12.33	1.0
Unknown	5000	T J	ug/Kg	5.42	1.0
Unknown	1000	T J	ug/Kg	11.42	1.0
Naphthalene, 2-ethenyl-	3500	T J N	ug/Kg	827-54-3	16.12
Diphenyl ether	9600	T J N	ug/Kg	101-84-8	16.43
Method: 8315A			Date Analyzed:	08/24/2009 1541	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	530	ug/Kg	85	110	1.0
Acetaldehyde	160	J	ug/Kg	31	220

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

**Client Sample ID:** OC-SB-421-8.0/10.0-XXX  
**Lab Sample ID:** 360-24194-3

Date Sampled: 08/19/2009 0745  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate					Acceptance Limits
Phenol-d5	67	%		30 - 130	
Terphenyl-d14	83	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	200	ug/Kg	82	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
<b>Method: 6010B</b>					
<b>Prep Method: 3050B</b>					
Aluminum	5900	mg/Kg	0.81	3.1	1.0
Antimony	ND	mg/Kg	0.22	0.62	1.0
Arsenic	3.1	mg/Kg	0.11	1.2	1.0
Barium	15	mg/Kg	0.081	0.62	1.0
Beryllium	0.14	J	0.031	0.25	1.0
Cadmium	0.28		0.0087	0.25	1.0
Calcium	2400	B	3.1	25	1.0
Chromium	12	mg/Kg	0.083	0.62	1.0
Cobalt	5.1	mg/Kg	0.081	0.62	1.0
Copper	13	mg/Kg	0.081	1.2	1.0
Iron	10000	B	0.99	6.2	1.0
Lead	1.3	mg/Kg	0.071	0.62	1.0
Magnesium	2700	B	0.62	12	1.0
Manganese	92	mg/Kg	0.083	1.2	1.0
Nickel	8.3	B	0.081	1.2	1.0
Potassium	850	*	39	250	1.0
Selenium	ND	mg/Kg	0.29	0.62	1.0
Silver	ND	mg/Kg	0.062	0.62	1.0
Sodium	160	mg/Kg	16	120	1.0
Thallium	ND	mg/Kg	0.090	1.2	1.0
Vanadium	19	mg/Kg	0.081	1.2	1.0
Zinc	29	mg/Kg	0.73	3.1	1.0
Tin	4.0	J B	0.40	6.2	1.0
<b>Method: 7471A</b>					
<b>Prep Method: 7471A</b>					
Mercury	ND	mg/Kg	0.024	0.13	1.0

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

**Client Sample ID:** OC-SB-424-0.0/1.0-XXX  
**Lab Sample ID:** 360-24194-4

Date Sampled: 08/19/2009 1135  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	16 J	ug/Kg	10	34	1.0
<b>Acceptance Limits</b>					
2,4,6-Tribromophenol	68	%		30 - 130	
2-Fluorophenol	88	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	83	%		30 - 130	
Terphenyl-d14	69	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
n-Hexadecanoic acid	130	T J N	ug/Kg	57-10-3	11.80
Tetracosane	78	T J N	ug/Kg	646-31-1	13.54
Hexatricontane	120	T J N	ug/Kg	630-6-8	14.13
Heptacosane	110	T J N	ug/Kg	593-49-7	15.49
Hexacosane	190	T J N	ug/Kg	630-1-3	16.47
Hexatricontane	180	T J N	ug/Kg	630-6-8	17.57
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
<b>Acceptance Limits</b>					
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
2-Fluorophenol	61	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	63	%		30 - 130	
Terphenyl-d14	90	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	480	ug/Kg	80	100	1.0
Acetaldehyde	ND	ug/Kg	30	210	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0

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Job Number: 360-24194-1  
Sdg Number: OCRI-02

Client Sample ID: OC-SB-424-17/19-XXX  
Lab Sample ID: 360-24194-5

Date Sampled: 08/19/2009 1235  
Date Received: 08/19/2009 1730  
Client Matrix: Solid  
Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/24/2009 1628	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	610	ug/Kg	86	110	1.0
Acetaldehyde	63	J	32	220	1.0

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

Client Sample ID: OC-SB-424-7.0/9.0-XXX  
 Lab Sample ID: 360-24194-6

Date Sampled: 08/19/2009 1215  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Acceptance Limits					
Surrogate		%	30 - 130		
Phenol-d5	69	%	30 - 130		
Terphenyl-d14	94	%			
Method: 8315A		Date Analyzed:	08/24/2009 1640		
Prep Method: 8315_S_Prep		Date Prepared:	08/23/2009 1546		
Formaldehyde	1600	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0
Method: LC65		Date Analyzed:	08/24/2009 2118		
Prep Method: LC65		Date Prepared:	08/23/2009 1547		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
Method: 6010B		Date Analyzed:	08/21/2009 1417		
Prep Method: 3050B		Date Prepared:	08/21/2009 0912		
Aluminum	12000	mg/Kg	0.79	3.0	1.0
Antimony	ND	mg/Kg	0.22	0.61	1.0
Arsenic	3.4	mg/Kg	0.11	1.2	1.0
Barium	31	mg/Kg	0.079	0.61	1.0
Beryllium	0.35	mg/Kg	0.030	0.24	1.0
Cadmium	0.48	mg/Kg	0.0085	0.24	1.0
Calcium	3100	B	mg/Kg	3.0	1.0
Chromium	23	mg/Kg	0.081	0.61	1.0
Cobalt	11	mg/Kg	0.079	0.61	1.0
Copper	45	mg/Kg	0.079	1.2	1.0
Iron	18000	B	mg/Kg	0.97	1.0
Lead	2.6	mg/Kg	0.069	0.61	1.0
Magnesium	5900	B	mg/Kg	0.61	1.0
Manganese	160	mg/Kg	0.081	1.2	1.0
Nickel	20	B	mg/Kg	0.079	1.0
Selenium	ND	mg/Kg	0.28	0.61	1.0
Silver	ND	mg/Kg	0.061	0.61	1.0
Sodium	180	mg/Kg	16	120	1.0
Thallium	ND	mg/Kg	0.088	1.2	1.0
Vanadium	34	mg/Kg	0.079	1.2	1.0
Zinc	43	mg/Kg	0.71	3.0	1.0
Tin	8.2	B	mg/Kg	0.39	1.0
Method: 6010B		Date Analyzed:	08/24/2009 1511		
Prep Method: 3050B		Date Prepared:	08/21/2009 0912		
Potassium	1200	*	mg/Kg	76	490
Method: 7471A		Date Analyzed:	08/21/2009 1458		2.0

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

Client Sample ID: OC-SB-425-0.0/1.0-XXX  
 Lab Sample ID: 360-24194-7

Date Sampled: 08/19/2009 0955  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.1	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	43	%		30 - 130	
2-Fluorobiphenyl	57	%		30 - 130	
2-Fluorophenol	38	%		30 - 130	
Nitrobenzene-d5	59	%		30 - 130	
Phenol-d5	42	%		30 - 130	
Terphenyl-d14	68	%		30 - 130	
Method: 8315A			Date Analyzed:	08/24/2009 1651	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	ND	ug/Kg	79	100	1.0
Acetaldehyde	ND	ug/Kg	29	200	1.0
Method: LC65			Date Analyzed:	08/24/2009 2131	
Prep Method: LC65			Date Prepared:	08/23/2009 1547	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	17	97	1.0
Method: 6010B			Date Analyzed:	08/21/2009 1420	
Prep Method: 3050B			Date Prepared:	08/21/2009 0912	
Aluminum	7000	mg/Kg	0.74	2.8	1.0
Antimony	ND	mg/Kg	0.20	0.57	1.0
Arsenic	4.2	mg/Kg	0.10	1.1	1.0
Barium	13	mg/Kg	0.074	0.57	1.0
Beryllium	0.18	J	0.028	0.23	1.0
Cadmium	0.20	J	0.0079	0.23	1.0
Calcium	1000	B	2.8	23	1.0
Chromium	19	mg/Kg	0.075	0.57	1.0
Cobalt	3.5	mg/Kg	0.074	0.57	1.0
Copper	10	mg/Kg	0.074	1.1	1.0
Iron	9700	B	0.90	5.7	1.0
Lead	13	mg/Kg	0.065	0.57	1.0
Magnesium	2000	B	0.57	11	1.0
Manganese	79	mg/Kg	0.076	1.1	1.0
Nickel	10	B	0.074	1.1	1.0
Selenium	ND	mg/Kg	0.26	0.57	1.0
Silver	0.068	J	0.057	0.57	1.0
Sodium	15	J	15	110	1.0
Thallium	ND	mg/Kg	0.082	1.1	1.0
Vanadium	19	mg/Kg	0.074	1.1	1.0
Zinc	36	mg/Kg	0.67	2.8	1.0
Tin	7.4	B	0.36	5.7	1.0

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Job Number: 360-24194-1  
Sdg Number: OCRI-02

Client Sample ID: OC-SB-425-18/20-XXX  
Lab Sample ID: 360-24194-8

Date Sampled: 08/19/2009 1025  
Date Received: 08/19/2009 1730  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/24/2009 1703	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	280	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

**Client Sample ID:** OC-SB-425-6.0/8.0-XXX  
**Lab Sample ID:** 360-24194-9

Date Sampled: 08/19/2009 1005  
 Date Received: 08/19/2009 1730  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Indeno[1,2,3-cd]pyrene	ND	ug/Kg	54	180	5.0
Isophorone	ND	ug/Kg	54	180	5.0
Naphthalene	ND	ug/Kg	54	430	5.0
Nitrobenzene	ND	ug/Kg	54	180	5.0
N-Nitrosodimethylamine	ND	ug/Kg	64	180	5.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	54	180	5.0
N-Nitrosodiphenylamine	ND	ug/Kg	54	180	5.0
Pentachlorophenol	ND	ug/Kg	54	180	5.0
Phenanthrene	ND	ug/Kg	54	220	5.0
Phenol	ND	ug/Kg	54	180	5.0
Pyrene	ND	ug/Kg	54	180	5.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	67	%		30 - 130	
2-Fluorophenol	70	%		30 - 130	
2-Fluorobiphenyl	60	%		30 - 130	
Nitrobenzene-d5	52	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	66	%		30 - 130	
Tentatively Identified Compounds					
Unknown	6.5	T J	ug/Kg	17.54	5.0
Unknown	6200	T J	ug/Kg	9.32	5.0
Unknown	4500	T J	ug/Kg	9.38	5.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/02/2009 0851	
<b>Prep Method:</b> 3550B			Date Prepared:	08/31/2009 1206	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.5	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	46	%		30 - 130	
2-Fluorobiphenyl	59	%		30 - 130	
2-Fluorophenol	54	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	57	%		30 - 130	
Terphenyl-d14	92	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	08/24/2009 1715	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	150	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0
<b>Method:</b> LC65			Date Analyzed:	08/24/2009 2157	
<b>Prep Method:</b> LC65			Date Prepared:	08/23/2009 1547	

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Job Number: 360-24194-1  
 Sdg Number: OCRI-02

Client Sample ID: OC-EBK-002  
 Lab Sample ID: 360-24194-12

Date Sampled: 08/19/2009 0930  
 Date Received: 08/19/2009 1730  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate					Acceptance Limits
2,4,6-Tribromophenol	68	%		15 - 110	
2-Fluorobiphenyl	64	%		30 - 130	
2-Fluorophenol	24	%		15 - 110	
Nitrobenzene-d5	65	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
2,4,6-Tribromophenol	68	%		15 - 110	
Terphenyl-d14	74	%		30 - 130	
2-Fluorobiphenyl	64	%		30 - 130	
2-Fluorophenol	24	%		15 - 110	
Nitrobenzene-d5	65	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
Terphenyl-d14	74	%		30 - 130	
Tentatively Identified Compounds					Cas Number RT
Benzene	11	T J N	ug/L	71-43-2	4.92 1.0
Phenol, 2,4-bis(1,1-dimethylethyl)- p,p'-Diocetylphenylamine	0.60	T J N	ug/L	96-76-4	11.13 1.0
	8.4	T J N	ug/L	26603-23-6	19.36 1.0
<b>Method: 8315A</b>					Date Analyzed: 08/22/2009 2316
<b>Prep Method: 8315_W_Prep</b>					Date Prepared: 08/22/2009 1740
Formaldehyde	7.1	J	ug/L	5.0	50 1.0
Acetaldehyde	ND		ug/L	10	100 1.0
<b>Method: LC65</b>					Date Analyzed: 08/29/2009 1447
<b>Prep Method: LC65</b>					Date Prepared: 08/26/2009 2200
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10 1.0
<b>Method: 6010B</b>					Date Analyzed: 08/21/2009 1550
<b>Prep Method: 3010A</b>					Date Prepared: 08/21/2009 0709
Aluminum	ND		ug/L	39	100 1.0
Antimony	ND		ug/L	2.9	6.0 1.0
Barium	3.7	J	ug/L	2.0	10 1.0
Arsenic	ND		ug/L	2.3	10 1.0
Beryllium	ND		ug/L	0.20	1.0 1.0
Cadmium	ND		ug/L	0.20	1.0 1.0
Calcium	450		ug/L	59	400 1.0
Chromium	ND		ug/L	1.3	5.0 1.0
Cobalt	ND		ug/L	2.0	10 1.0
Copper	7.4	J	ug/L	1.7	10 1.0
Iron	53	J	ug/L	34	100 1.0
Lead	1.5	J	ug/L	1.3	5.0 1.0
Magnesium	120	J	ug/L	50	400 1.0

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24223  
Date: 3/21/10      Reviewer: C Ricardi

Chemist Review     Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

No Issues

## 2. Holding Time and Sample Preservation/Collection

Collect ~~8/22~~ 8/19 Prep 8/23 4 days  
cn

## 3. QC Blanks

MBL - ND

## 4. Laboratory Control Sample Review (80-120%)

Within limits

## 5. Field Duplicate Precision (30/50)

NA

## 6. Lab Duplicate Precision (20/35)

NA

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

NA

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24223-1  
 Sdg Number: OCRI-03

**Client Sample ID:** OC-SB-419-0.0/1.0-XXX  
**Lab Sample ID:** 360-24223-4

Date Sampled: 08/19/2009 1555  
 Date Received: 08/20/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND *	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	11 J	ug/Kg	10	34	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	27 X	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
2-Fluorobiphenyl	60	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	62	%		30 - 130	
Terphenyl-d14	68	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Methenamine	130	T J N	ug/Kg	100-97-0	8.91
Methenamine	850	T J N	ug/Kg	100-97-0	8.93
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	47	T J N	ug/Kg	3910-35-8	11.14
Erucylamide	270	T J N	ug/Kg	112-84-5	16.03
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.1	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	24 X	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
2-Fluorophenol	22 X	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	54	%		30 - 130	
Terphenyl-d14	98	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	290	ug/Kg	78	100	1.0
Acetaldehyde	ND	ug/Kg	29	200	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	580	ug/Kg	17	97	1.0
<b>Method: 6010B</b>					
<b>Prep Method: 3050B</b>					
Date Analyzed: 09/02/2009 0921					
Date Prepared: 08/31/2009 1206					
Acceptance Limits					

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Job Number: 360-24223-1  
Sdg Number: OCRI-03

Client Sample ID: OC-SB-419-17/19-XXX  
Lab Sample ID: 360-24223-5

Date Sampled: 08/19/2009 1640  
Date Received: 08/20/2009 1800  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/24/2009 1739	
Prep Method: 8315_S_Prep			Date Prepared:	08/23/2009 1546	
Formaldehyde	240	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0

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Job Number: 360-24223-1  
 Sdg Number: OCRI-03

Client Sample ID: OC-SB-419-3.0/5.0-XXX  
 Lab Sample ID: 360-24223-6

Date Sampled: 08/19/2009 1605  
 Date Received: 08/20/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND *	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	55	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
Nitrobenzene-d5	54	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	61	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Butylated Hydroxytoluene	30	T J N	ug/Kg	128-37-0	10.69
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	25	T J N	ug/Kg	3910-35-8	11.64
2,4-Diphenyl-4-methyl-2(E)-pentene	22	T J N	ug/Kg	22768-22-5	12.04
Unknown	41	T J	ug/Kg		17.77
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.4	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	49	%		30 - 130	
2-Fluorobiphenyl	61	%		30 - 130	
2-Fluorophenol	62	%		30 - 130	
Nitrobenzene-d5	59	%		30 - 130	
Phenol-d5	61	%		30 - 130	
Terphenyl-d14	104	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	120	ug/Kg	84	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method: 6010B</b>					
<b>Prep Method: 3050B</b>					
Date Analyzed: 09/02/2009 1021					
Date Prepared: 08/31/2009 1206					
<b>Acceptance Limits</b>					

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Job Number: 360-24223-1  
 Sdg Number: OCRI-03

Client Sample ID: OC-SB-426-0.0/1.0-XXX  
 Lab Sample ID: 360-24223-7

Date Sampled: 08/19/2009 1415  
 Date Received: 08/20/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: 8270C LL</b>			Date Analyzed:	09/02/2009 1051	
<b>Prep Method: 3550B</b>			Date Prepared:	08/31/2009 1206	
N-Nitrosodimethylamine	ND	ug/Kg	12	52	5.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	45	%		30 - 130	
2-Fluorobiphenyl	66	%		30 - 130	
2-Fluorophenol	54	%		30 - 130	
Nitrobenzene-d5	35	%		30 - 130	
Phenol-d5	41	%		30 - 130	
Terphenyl-d14	95	%		30 - 130	
<b>Method: 8315A</b>			Date Analyzed:	08/24/2009 1802	
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	08/23/2009 1546	
Formaldehyde	140	ug/Kg	80	100	1.0
Acetaldehyde	ND	ug/Kg	30	200	1.0
<b>Method: LC65</b>			Date Analyzed:	09/01/2009 1212	
<b>Prep Method: LC65</b>			Date Prepared:	08/31/2009 1324	
Phthalic Acid/Phthalic anhydride	29	J	ug/Kg	18	1.0
<b>Method: 6010B</b>			Date Analyzed:	08/24/2009 1640	
<b>Prep Method: 3050B</b>			Date Prepared:	08/24/2009 0848	
Aluminum	6100	B	mg/Kg	0.76	2.9
Antimony	ND		mg/Kg	0.21	0.59
Arsenic	10		mg/Kg	0.11	1.2
Barium	16	B	mg/Kg	0.076	0.59
Beryllium	0.24		mg/Kg	0.029	0.23
Cadmium	0.29	B	mg/Kg	0.0082	0.23
Calcium	3400	B	mg/Kg	2.9	23
Chromium	180	B	mg/Kg	0.078	0.59
Cobalt	4.0		mg/Kg	0.076	0.59
Copper	11	B	mg/Kg	0.076	1.2
Iron	12000	B	mg/Kg	0.94	5.9
Lead	6.1	B	mg/Kg	0.067	0.59
Magnesium	2000	B	mg/Kg	0.59	12
Manganese	89	B	mg/Kg	0.078	1.2
Nickel	11	B	mg/Kg	0.076	1.2
Potassium	760		mg/Kg	37	230
Selenium	ND		mg/Kg	0.27	0.59
Silver	2.6		mg/Kg	0.059	0.59
Sodium	ND		mg/Kg	15	120
Thallium			mg/Kg	0.085	1.2

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/24/10

Reviewer: C Ricardi

24244

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

Acetaldehyde low in MS/MSD

2. Holding Time and Sample Preservation/Collection

Collected 8/20 Prep 8/25  
8/21

5 day  
4 day

3. QC Blanks

MBR ND

EBR - 9.9 J Area 10065 ( $0.247 \mu\text{g/mL} \times 40 \text{ prep.}$ )

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

NA

6. Lab Duplicate Precision (20/35)

NA

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24244-3 SB-432-5.0/7.0

44/44 out Low J/6J  
14/13

8. Surrogate Recovery (if applicable)

NA

9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

Client Sample ID: OC-SB-432-0.0/1.0-XXX  
 Lab Sample ID: 360-24244-1

Date Sampled: 08/20/2009 1435  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Prep Method:</b> 8315_S_Prep			Date Prepared: 08/25/2009 1255		
Formaldehyde	210	ug/Kg	82	110	1.0
Acetaldehyde	120	J	ug/Kg	31	210
<b>Method:</b> LC65			Date Analyzed: 09/01/2009 1250		
<b>Prep Method:</b> LC65			Date Prepared: 08/31/2009 1324		
Phthalic Acid/Phthalic anhydride	2100	ug/Kg	19	100	1.0
<b>Method:</b> 6010B			Date Analyzed: 08/25/2009 1416		
<b>Prep Method:</b> 3050B			Date Prepared: 08/25/2009 0838		
Aluminum	8500	mg/Kg	0.80	3.1	1.0
Antimony	0.73	mg/Kg	0.22	0.62	1.0
Arsenic	8.8	mg/Kg	0.11	1.2	1.0
Barium	85	B	mg/Kg	0.080	0.62
Beryllium	0.24	J	mg/Kg	0.031	0.25
Cadmium	0.64		mg/Kg	0.0087	0.25
Chromium	44		mg/Kg	0.082	0.62
Cobalt	4.5		mg/Kg	0.080	0.62
Copper	71		mg/Kg	0.080	1.2
Iron	18000	B	mg/Kg	0.99	6.2
Lead	17		mg/Kg	0.071	0.62
Magnesium	3300	B	mg/Kg	0.62	1.0
Manganese	140		mg/Kg	0.083	1.2
Nickel	20	B	mg/Kg	0.080	1.2
Potassium	1800		mg/Kg	39	250
Selenium	ND		mg/Kg	0.29	0.62
Silver	0.32	J	mg/Kg	0.062	0.62
Sodium	ND		mg/Kg	16	120
Thallium	0.13	J	mg/Kg	0.090	1.2
Vanadium	18		mg/Kg	0.080	1.2
Zinc	250		mg/Kg	0.73	3.1
Tin	17	B	mg/Kg	0.40	6.2
<b>Method:</b> 6010B			Date Analyzed: 08/25/2009 1527		
<b>Prep Method:</b> 3050B			Date Prepared: 08/25/2009 0838		
Calcium	27000	B	mg/Kg	15	62
<b>Method:</b> 7471A			Date Analyzed: 08/26/2009 1338		
<b>Prep Method:</b> 7471A			Date Prepared: 08/25/2009 1105		
Mercury	ND		mg/Kg	0.029	0.16
					1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

Client Sample ID: OC-SB-432-14/16-XXX  
 Lab Sample ID: 360-24244-2

Date Sampled: 08/20/2009 1515  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate					Acceptance Limits
Terphenyl-d14	0	X DW	%	30 - 130	
Method: 8270C LL			Date Analyzed:	09/02/2009 1421	
Prep Method: 3550B			Date Prepared:	08/31/2009 1206	
N-Nitrosodimethylamine	ND		ug/Kg	13	54
Surrogate					Acceptance Limits
2,4,6-Tribromophenol	0	X	%	30 - 130	
2-Fluorobiphenyl	46		%	30 - 130	
2-Fluorophenol	33		%	30 - 130	
Nitrobenzene-d5	8	X	%	30 - 130	
Phenol-d5	45		%	30 - 130	
Terphenyl-d14	173	X	%	30 - 130	
Method: 8315A			Date Analyzed:	08/26/2009 1119	
Prep Method: 8315_S_Prep			Date Prepared:	08/25/2009 1255	
Formaldehyde	490		ug/Kg	85	110
Acetaldehyde	51	J	ug/Kg	32	220
Method: LC65			Date Analyzed:	09/01/2009 1303	
Prep Method: LC65			Date Prepared:	08/31/2009 1324	
Phthalic Acid/Phthalic anhydride	48	J	ug/Kg	20	110
Method: 6010B			Date Analyzed:	08/25/2009 1431	
Prep Method: 3050B			Date Prepared:	08/25/2009 0838	
Aluminum	2700		mg/Kg	0.75	2.9
Antimony	ND		mg/Kg	0.21	0.58
Arsenic	2.5		mg/Kg	0.11	1.2
Barium	0.082	J	mg/Kg	0.029	0.23
Beryllium	0.098	J	mg/Kg	0.0081	0.23
Cadmium	1300	B	mg/Kg	2.9	12
Calcium	18		mg/Kg	0.077	0.58
Chromium	2.8		mg/Kg	0.075	0.58
Cobalt	5.2		mg/Kg	0.075	1.2
Copper	6800	B	mg/Kg	0.92	5.8
Iron	1.9		mg/Kg	0.066	0.58
Lead	1400	B	mg/Kg	0.58	12
Magnesium	43		mg/Kg	0.077	1.2
Manganese	4.3	B	mg/Kg	0.075	1.2
Nickel	1000		mg/Kg	36	230
Potassium	ND		mg/Kg	0.27	0.58
Selenium					1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-432-5.0/7.0-XXX  
**Lab Sample ID:** 360-24244-3

Date Sampled: 08/20/2009 1441  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Surrogate</b>					Acceptance Limits
Nitrobenzene-d5	0	X D	%	30 - 130	
Phenol-d5	0	X D	%	30 - 130	
Terphenyl-d14	0	X D	%	30 - 130	
<b>Method:</b> 8270C LL			Date Analyzed:	09/02/2009 1451	
<b>Prep Method:</b> 3550B			Date Prepared:	08/31/2009 1206	
N-Nitrosodimethylamine	ND		ug/Kg	33	140
					5.0
<b>Surrogate</b>					Acceptance Limits
2,4,6-Tribromophenol	0	X	%	30 - 130	
2-Fluorobiphenyl	89		%	30 - 130	
2-Fluorophenol	42		%	30 - 130	
Nitrobenzene-d5	29	X	%	30 - 130	
Phenol-d5	28	X	%	30 - 130	
Terphenyl-d14	56		%	30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	08/26/2009 1130	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/25/2009 1255	
Formaldehyde	ND	WT	ug/Kg	88	110
Acetaldehyde	ND	WT	ug/Kg	33	230
<b>Method:</b> LC65			Date Analyzed:	09/01/2009 1329	
<b>Prep Method:</b> LC65			Date Prepared:	08/31/2009 1324	
Phthalic Acid/Phthalic anhydride	41	J	ug/Kg	20	110
<b>Method:</b> 6010B			Date Analyzed:	08/25/2009 1440	
<b>Prep Method:</b> 3050B			Date Prepared:	08/25/2009 0838	
Aluminum	340		mg/Kg	0.98	3.8
Antimony	ND		mg/Kg	0.27	0.76
Arsenic	0.90	J	mg/Kg	0.14	1.5
Barium	2.2	B	mg/Kg	0.098	0.76
Beryllium	ND		mg/Kg	0.038	0.30
Cadmium	0.019	J	mg/Kg	0.011	0.30
Calcium	410	B	mg/Kg	3.8	15
Chromium	11		mg/Kg	0.10	0.76
Cobalt	0.29	J	mg/Kg	0.098	0.76
Copper	2.9		mg/Kg	0.098	1.5
Iron	990	B	mg/Kg	1.2	7.6
Lead	0.73	J	mg/Kg	0.086	0.76
Magnesium	69	B	mg/Kg	0.76	15
Manganese	5.8		mg/Kg	0.10	1.5
Nickel	0.93	J B	mg/Kg	0.098	1.5

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Job Number: 360-24244-1  
Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-443-18/20-XXX  
**Lab Sample ID:** 360-24244-5

Date Sampled: 08/20/2009 1720  
Date Received: 08/21/2009 1725  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8315A			Date Analyzed:	08/26/2009 1206	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/25/2009 1255	
Formaldehyde	180	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-443-6.0/8.0-XXX  
**Lab Sample ID:** 360-24244-6

Date Sampled: 08/20/2009 1640  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 86

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	49	%		30 - 130	
2-Fluorophenol	71	%		30 - 130	
2-Fluorobiphenyl	56	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	68	%		30 - 130	
Terphenyl-d14	48	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Unknown	89	T J	ug/Kg		10.83
Phenol, (1,1,3,3-tetramethylbutyl)-	160	T J N	ug/Kg	27193-28-8	10.87
Unknown	120	T J	ug/Kg		11.03
Unknown	86	T J	ug/Kg		13.66
Unknown	95	T J	ug/Kg		13.72
Pentacosane	83	T J N	ug/Kg	629-99-2	13.90
Unknown	150	T J	ug/Kg		14.31
Unknown	110	T J	ug/Kg		15.07
Unknown	170	T J	ug/Kg		15.19
Acetonitrile, (2,7-dibromo-1-naphthyl)-	470	T J N	ug/Kg	1000164-46-9	15.79
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.8	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	65	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
Nitrobenzene-d5	71	%		30 - 130	
Phenol-d5	73	%		30 - 130	
Terphenyl-d14	79	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	150	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-445-0.0/1.0-XXX  
**Lab Sample ID:** 360-24244-7

Date Sampled: 08/21/2009 0900  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 98

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Formaldehyde	240	ug/Kg	77	99	1.0
Acetaldehyde	ND	ug/Kg	29	200	1.0
<b>Method:</b> LC65			Date Analyzed:	09/01/2009 1420	
<b>Prep Method:</b> LC65			Date Prepared:	08/31/2009 1324	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	17	97	1.0
<b>Method:</b> 6010B			Date Analyzed:	08/25/2009 1450	
<b>Prep Method:</b> 3050B			Date Prepared:	08/25/2009 0838	
Aluminum	6300	mg/Kg	0.73	2.8	1.0
Antimony	ND	mg/Kg	0.20	0.56	1.0
Arsenic	3.3	mg/Kg	0.10	1.1	1.0
Barium	26	B	mg/Kg	0.073	0.56
Beryllium	0.25		mg/Kg	0.028	0.23
Cadmium	0.24		mg/Kg	0.0079	0.23
Calcium	2500	B	mg/Kg	2.8	1.0
Chromium	11		mg/Kg	0.075	0.56
Cobalt	5.3		mg/Kg	0.073	0.56
Copper	14		mg/Kg	0.073	1.1
Iron	11000	B	mg/Kg	0.90	5.6
Lead	5.0		mg/Kg	0.064	0.56
Magnesium	2900	B	mg/Kg	0.56	1.0
Manganese	160		mg/Kg	0.075	1.1
Nickel	9.9	B	mg/Kg	0.073	1.1
Potassium	1100		mg/Kg	35	230
Selenium	ND		mg/Kg	0.26	0.56
Silver	ND		mg/Kg	0.057	0.56
Sodium	76	J	mg/Kg	15	110
Thallium	ND		mg/Kg	0.081	1.1
Vanadium	16		mg/Kg	0.073	1.1
Zinc	34		mg/Kg	0.66	2.8
Tin	3.7	J B	mg/Kg	0.36	5.6
<b>Method:</b> 7471A			Date Analyzed:	08/26/2009 1354	
<b>Prep Method:</b> 7471A			Date Prepared:	08/25/2009 1105	
Mercury	0.45		mg/Kg	0.029	0.16
					1.0

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Job Number: 360-24244-1  
Sdg Number: OCRI-04

Client Sample ID: OC-SB-445-25/27-XXX  
Lab Sample ID: 360-24244-6

Date Sampled: 08/21/2009 1015  
Date Received: 08/21/2009 1725  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/26/2009 1253	
Prep Method: 8315_S_Prep			Date Prepared:	08/25/2009 1255	
Formaldehyde	210	ug/Kg	82	100	1.0
Acetaldehyde	ND	ug/Kg	30	210	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-445-8.0/10-XXX  
**Lab Sample ID:** 360-24244-9

Date Sampled: 08/21/2009 0910  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	ND	ug/Kg	12	39	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	48	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	69	%		30 - 130	
Terphenyl-d14	54	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Unknown	56	T J	ug/Kg	10.89	1.0
Unknown	26	T J	ug/Kg	12.29	1.0
Pentacosane	110	T J N	ug/Kg	629-99-2	1.0
Hexacosane	100	T J N	ug/Kg	630-1-3	1.0
Heptacosane	88	T J N	ug/Kg	593-49-7	1.0
Eicosane	94	T J N	ug/Kg	112-95-8	1.0
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9	1.0
<b>Acceptance Limits</b>					
2,4,6-Tribromophenol	68	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
2-Fluorophenol	64	%		30 - 130	
Nitrobenzene-d5	67	%		30 - 130	
Phenol-d5	67	%		30 - 130	
Terphenyl-d14	74	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	200	ug/Kg	90	120	1.0
Acetaldehyde	ND	ug/Kg	33	230	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-437-0.0/1.0-XXX  
**Lab Sample ID:** 360-24244-10

Date Sampled: 08/21/2009 1230  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	35	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	10	35	1.0	
Pentachlorophenol	ND	ug/Kg	10	35	1.0	
Phenanthrene	ND	ug/Kg	10	42	1.0	
Phenol	14	J	ug/Kg	10	35	1.0
Pyrene	12	J	ug/Kg	10	35	1.0
Acceptance Limits						
Surrogate		%		30 - 130		
2,4,6-Tribromophenol	43	%		30 - 130		
2-Fluorophenol	60	%		30 - 130		
2-Fluorobiphenyl	51	%		30 - 130		
Nitrobenzene-d5	51	%		30 - 130		
Phenol-d5	58	%		30 - 130		
Terphenyl-d14	46	%		30 - 130		
Tentatively Identified Compounds						
1,7-Dimethyl-4-(1-methylethyl)cyclodecan	250	T J N	ug/Kg	645-10-3	14.00	1.0
Method: 8270C LL						
Prep Method: 3550B						
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.4	1.0	
Acceptance Limits						
Surrogate		%		30 - 130		
2,4,6-Tribromophenol	58	%		30 - 130		
2-Fluorobiphenyl	56	%		30 - 130		
2-Fluorophenol	56	%		30 - 130		
Nitrobenzene-d5	61	%		30 - 130		
Phenol-d5	62	%		30 - 130		
Terphenyl-d14	67	%		30 - 130		
Method: 8315A						
Prep Method: 8315_S_Prep						
Formaldehyde	270	ug/Kg	83	110	1.0	
Acetaldehyde	ND	ug/Kg	31	210	1.0	
Method: LC65						
Prep Method: LC65						
Phthalic Acid/Phthalic anhydride	110	ug/Kg	19	110	1.0	
Method: 6010B						
Prep Method: 3050B						
Aluminum	7000	mg/Kg	0.83	3.2	1.0	
Antimony	ND	mg/Kg	0.23	0.64	1.0	
Arsenic	5.4	mg/Kg	0.12	1.3	1.0	

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Job Number: 360-24244-1  
Sdg Number: OCRI-04

Client Sample ID: OC-SB-437-21/23-XXX  
Lab Sample ID: 360-24244-11

Date Sampled: 08/21/2009 1310  
Date Received: 08/21/2009 1725  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/26/2009 1328	
Prep Method: 8315_S_Prep			Date Prepared:	08/25/2009 1255	
Formaldehyde	330	ug/Kg	78	100	1.0
Acetaldehyde	50	J	29	200	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

**Client Sample ID:** OC-SB-437-5.0/7.0-XXX  
**Lab Sample ID:** 360-24244-12

Date Sampled: 08/21/2009 1240  
 Date Received: 08/21/2009 1725  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodimethylamine	ND	ug/Kg	13	37	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	45	1.0
Phenanthrene	ND	ug/Kg	11	37	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0
Surrogate					
2,4,6-Tribromophenol	44	%		30 - 130	
2-Fluorophenol	63	%		30 - 130	
2-Fluorobiphenyl	54	%		30 - 130	
Nitrobenzene-d5	53	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	59	%		30 - 130	
Tentatively Identified Compounds					
Pentacosane	33	T J N	ug/Kg	629-99-2	13.89
13-Tertadecen-1-ol acetate	34	T J N	ug/Kg	1000130-79-8	14.07
Method: 8270C LL					
Prep Method: 3550B					
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.6	1.0
Surrogate					
2,4,6-Tribromophenol	61	%		30 - 130	
2-Fluorobiphenyl	53	%		30 - 130	
2-Fluorophenol	58	%		30 - 130	
Nitrobenzene-d5	60	%		30 - 130	
Phenol-d5	61	%		30 - 130	
Terphenyl-d14	65	%		30 - 130	
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	ND	ug/Kg	85	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0
Method: LC65					
Prep Method: LC65					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0
Method: 6010B					
Prep Method: 3050B					
Aluminum	4200	mg/Kg	0.85	3.3	1.0

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Job Number: 360-24244-1  
 Sdg Number: OCRI-04

Client Sample ID: OC-EBK-003  
 Lab Sample ID: 360-24244-14

Date Sampled: 08/21/2009 0715  
 Date Received: 08/21/2009 1725  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Acceptance Limits					
Surrogate		%		15 - 110	
2,4,6-Tribromophenol	63	%		30 - 130	
2-Fluorobiphenyl	60	%		15 - 110	
2-Fluorophenol	21	%		30 - 130	
Nitrobenzene-d5	60	%		15 - 110	
Phenol-d5	12	X	%	30 - 130	
Terphenyl-d14	69	%		15 - 110	
2,4,6-Tribromophenol	63	%		30 - 130	
2-Fluorobiphenyl	60	%		15 - 110	
2-Fluorophenol	21	%		30 - 130	
Nitrobenzene-d5	60	%		15 - 110	
Phenol-d5	12	X	%	30 - 130	
Terphenyl-d14	69	%		15 - 110	
Tentatively Identified Compounds					Cas Number RT
Cyclohexane	2.5	T J N	ug/L	110-82-7	4.80 1.0
Benzene	3.5	T J N	ug/L	71-43-2	4.91 1.0
4-Nonylphenol	2.5	T J N	ug/L	104-40-5	12.04 1.0
Method: 8315A					Date Analyzed: 08/22/2009 2328
Prep Method: 8315_W_Prep					Date Prepared: 08/22/2009 1740
Formaldehyde	9.9	J	ug/L	5.0	50 1.0
Acetaldehyde	ND		ug/L	10	100 1.0
Method: LC65					Date Analyzed: 08/29/2009 1459
Prep Method: LC65					Date Prepared: 08/26/2009 2200
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10 1.0
Method: 6010B					Date Analyzed: 08/25/2009 1628
Prep Method: 3010A					Date Prepared: 08/25/2009 0727
Aluminum	43	J	ug/L	39	100 1.0
Antimony	ND		ug/L	2.9	6.0 1.0
Barium	ND		ug/L	2.0	10 1.0
Arsenic	ND		ug/L	2.3	10 1.0
Beryllium	ND		ug/L	0.20	1.0 1.0
Cadmium	170	J	ug/L	59	400 1.0
Calcium	ND		ug/L	1.3	5.0 1.0
Chromium	ND		ug/L	2.0	10 1.0
Cobalt	ND		ug/L	1.7	10 1.0
Copper	31		ug/L	34	100 1.0
Iron	81	J	ug/L	1.3	5.0 1.0
Lead	ND		ug/L	50	400 1.0
Magnesium	ND		ug/L		

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315 24251  
Project #: 6107100016      Laboratory and SDG: TAL  
Date: 3/24/10      Reviewer: C Ricardi

Chemist Review     Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

No Issues

2. Holding Time and Sample Preservation/Collection

Collected 8/25 prep'd 8/31 6 day

3. QC Blanks    EBK-004 6.9 J ng/l

MBK - ND

4. Laboratory Control Sample Review (80-120%)

LCS - within limits

5. Field Duplicate Precision (30/50)

SB-446 5.0/1.0 Dup    A 42 40J ok  
AF 140 130

6. Lab Duplicate Precision (20/35)

NA

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24251-19 SB-446-5.0/1.0 ok

8. Surrogate Recovery (if applicable)

NA

9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-SB-446-0.0/1.0-XXX  
**Lab Sample ID:** 360-24251-16

Date Sampled: 08/25/2009 0805  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	15 J	ug/Kg	11	42	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	36	ug/Kg	11	35	1.0
<b>Acceptance Limits</b>					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	57	%		30 - 130	
2-Fluorophenol	70	%		30 - 130	
2-Fluorobiphenyl	66	%		30 - 130	
Nitrobenzene-d5	65	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	84	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Unknown	1.6	T J	ug/Kg		17.21
1-Hexanol, 2-ethyl-	890	T J N	ug/Kg	104-76-7	1.0
dl-2-Ethylhexyl chloroformate	880	T J N	ug/Kg	24468-13-1	1.0
Unknown	11	T J	ug/Kg		15.66
Unknown	20	T J	ug/Kg		15.96
<b>Acceptance Limits</b>					
<b>Method:</b> 8270C LL			Date Analyzed:	09/03/2009 0443	
<b>Prep Method:</b> 3550B			Date Prepared:	09/02/2009 1439	
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.3	1.0
<b>Acceptance Limits</b>					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	32	%		30 - 130	
2-Fluorobiphenyl	49	%		30 - 130	
2-Fluorophenol	45	%		30 - 130	
Nitrobenzene-d5	51	%		30 - 130	
Phenol-d5	51	%		30 - 130	
Terphenyl-d14	58	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	08/31/2009 1748	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	08/31/2009 0720	
Formaldehyde	390	ug/Kg	81	100	1.0
Acetaldehyde	45	J ug/Kg	30	210	1.0
<b>Method:</b> LC65			Date Analyzed:	09/01/2009 1710	
<b>Prep Method:</b> LC65			Date Prepared:	08/31/2009 0727	
Phthalic Acid/Phthalic anhydride	51	J ug/Kg	19	100	1.0
<b>Method:</b> 6010B			Date Analyzed:	08/27/2009 1708	

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Job Number: 360-24251-1  
Sdg Number: OCRI-05

Client Sample ID: OC-SB-446-15/17-XXX  
Lab Sample ID: 360-24251-17

Date Sampled: 08/25/2009 0900  
Date Received: 08/25/2009 1800  
Client Matrix: Solid  
Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/31/2009 1800	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0720	
Formaldehyde	150	ug/Kg	81	100	1.0
Acetaldehyde	33	J	30	210	1.0

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-SB-446-5.0/7.0-DUP  
**Lab Sample ID:** 360-24251-18

Date Sampled: 08/25/2009 0820  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 82

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0
Pentachlorophenol	ND	ug/Kg	12	40	1.0
Phenanthrene	ND	ug/Kg	12	48	1.0
Phenol	ND	ug/Kg	12	40	1.0
Pyrene	ND	ug/Kg	12	40	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	61	%		30 - 130	
2-Fluorophenol	65	%		30 - 130	
2-Fluorobiphenyl	64	%		30 - 130	
Nitrobenzene-d5	59	%		30 - 130	
Phenol-d5	60	%		30 - 130	
Terphenyl-d14	75	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Unknown	12	T J	ug/Kg	10.87	1.0
Hexatriacontane	38	T J N	ug/Kg	630-6-8	1.0
Tetracosane	21	T J N	ug/Kg	646-31-1	1.0
Eicosane	18	T J N	ug/Kg	112-95-8	1.0
p,p"-Dioctyldiphenylamine	190	T J N	ug/Kg	26603-23-6	1.0
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.4	6.1	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	59	%		30 - 130	
2-Fluorobiphenyl	51	%		30 - 130	
2-Fluorophenol	55	%		30 - 130	
Nitrobenzene-d5	55	%		30 - 130	
Phenol-d5	57	%		30 - 130	
Terphenyl-d14	67	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	130	J	ug/Kg	93	1.0
Acetaldehyde	40	J	ug/Kg	35	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0
<b>Method: 6010B</b>					
			Date Analyzed:	08/27/2009 1711	

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-SB-446-5.0/7.0-XXX  
**Lab Sample ID:** 360-24251-19

Date Sampled: 08/25/2009 0820  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 79

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	13	42	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	13	42	1.0
Pentachlorophenol	ND	ug/Kg	13	42	1.0
Phenanthrene	ND	ug/Kg	13	51	1.0
Phenol	ND	ug/Kg	13	42	1.0
Pyrene	ND	ug/Kg	13	42	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	67	%		30 - 130	
2-Fluorophenol	85	%		30 - 130	
2-Fluorobiphenyl	72	%		30 - 130	
Nitrobenzene-d5	79	%		30 - 130	
Phenol-d5	79	%		30 - 130	
Terphenyl-d14	87	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Tricosane	73	T J N	ug/Kg	638-67-5	14.74
Pentacosane	150	T J N	ug/Kg	629-99-2	15.96
Tricosane	150	T J N	ug/Kg	638-67-5	16.51
Heptacosane	130	T J N	ug/Kg	593-49-7	17.10
Octacosane	92	T J N	ug/Kg	630-2-4	17.74
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.5	6.3	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	59	%		30 - 130	
2-Fluorobiphenyl	48	%		30 - 130	
2-Fluorophenol	51	%		30 - 130	
Nitrobenzene-d5	51	%		30 - 130	
Phenol-d5	54	%		30 - 130	
Terphenyl-d14	61	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	140	ug/Kg	97	120	1.0
Acetaldehyde	42	J	ug/Kg	36	250
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	22	120	1.0
<b>Method: 6010B</b>					
Date Analyzed: 09/03/2009 0012					
Date Prepared: 09/02/2009 1439					
Acceptance Limits					
30 - 130					

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-SB-448-0.0/1.0-XXX  
**Lab Sample ID:** 360-24251-20

Date Sampled: 08/25/2009 1005  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Acceptance Limits</b>					
Surrogate					
2-Fluorobiphenyl	43	%		30 - 130	
2-Fluorophenol	41	%		30 - 130	
Nitrobenzene-d5	46	%		30 - 130	
Phenol-d5	45	%		30 - 130	
Terphenyl-d14	49	%		30 - 130	
<b>Method: 8315A</b>			Date Analyzed:	08/31/2009 1859	
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	08/31/2009 0720	
Formaldehyde	370	ug/Kg	81	100	1.0
Acetaldehyde	38	J ug/Kg	30	210	1.0
<b>Method: LC65</b>			Date Analyzed:	09/01/2009 1827	
<b>Prep Method: LC65</b>			Date Prepared:	08/31/2009 0727	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0
<b>Method: 6010B</b>			Date Analyzed:	08/27/2009 1726	
<b>Prep Method: 3050B</b>			Date Prepared:	08/27/2009 0848	
Aluminum	5100	mg/Kg	0.82	3.2	1.0
Antimony	ND	mg/Kg	0.23	0.63	1.0
Arsenic	4.6	mg/Kg	0.12	1.3	1.0
Barium	12	mg/Kg	0.082	0.63	1.0
Beryllium	0.18	J mg/Kg	0.032	0.25	1.0
Cadmium	0.14	J mg/Kg	0.0089	0.25	1.0
Calcium	690	B mg/Kg	3.2	13	1.0
Chromium	110	B mg/Kg	0.084	0.63	1.0
Cobalt	2.0	mg/Kg	0.082	0.63	1.0
Copper	4.2	mg/Kg	0.082	1.3	1.0
Iron	6500	B mg/Kg	1.0	6.3	1.0
Lead	4.8	mg/Kg	0.072	0.63	1.0
Magnesium	1200	B mg/Kg	0.63	13	1.0
Manganese	53	B mg/Kg	0.085	1.3	1.0
Nickel	8.1	B mg/Kg	0.082	1.3	1.0
Potassium	510	*	40	250	1.0
Selenium	ND	mg/Kg	0.30	0.63	1.0
Silver	1.8	mg/Kg	0.064	0.63	1.0
Sodium	ND	mg/Kg	16	130	1.0
Thallium	ND	mg/Kg	0.092	1.3	1.0
Vanadium	8.1	mg/Kg	0.082	1.3	1.0
Zinc	22	mg/Kg	0.74	3.2	1.0
Tin	50	B mg/Kg	0.41	6.3	1.0
<b>Method: 7471A</b>			Date Analyzed:	08/31/2009 1003	

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-SB-448-17/19-XXX  
**Lab Sample ID:** 360-24251-21

Date Sampled: 08/25/2009 1045  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0	
Pentachlorophenol	ND	ug/Kg	11	36	1.0	
Phenanthrene	ND	ug/Kg	11	44	1.0	
Phenol	ND	ug/Kg	11	36	1.0	
Pyrene	ND	ug/Kg	11	36	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	78	%		30 - 130		
2-Fluorophenol	101	%		30 - 130		
2-Fluorobiphenyl	85	%		30 - 130		
Nitrobenzene-d5	92	%		30 - 130		
Phenol-d5	95	%		30 - 130		
Terphenyl-d14	105	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Furan, 2,5-dihydro-2,5-dimethyl-	20	T J N	ug/Kg	59242-27-2	6.71	1.0
Unknown	48	T J	ug/Kg		17.11	1.0
Pyridine	7.3	J	ug/Kg	110-86-1	6.06	1.0
Diphenylamine	9.3	J	ug/Kg	2.2	36	1.0
<b>Method:</b> 8270C LL <b>Run Type:</b> DL				Date Analyzed:	09/16/2009 1910	
<b>Prep Method:</b> 3546				Date Prepared:	09/03/2009 1311	
Diphenylamine	7.6	J	ug/Kg	2.2	36	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/03/2009 0142	
<b>Prep Method:</b> 3550B				Date Prepared:	09/02/2009 1439	
N-Nitrosodimethylamine	ND		ug/Kg	1.3	5.4	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	60	%		30 - 130		
2-Fluorobiphenyl	52	%		30 - 130		
2-Fluorophenol	58	%		30 - 130		
Nitrobenzene-d5	58	%		30 - 130		
Phenol-d5	60	%		30 - 130		
Terphenyl-d14	65	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	08/31/2009 1911	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	08/31/2009 0720	
Formaldehyde	260		ug/Kg	81	100	1.0
Acetaldehyde	35	J	ug/Kg	30	210	1.0
<b>Method:</b> LC65				Date Analyzed:	09/01/2009 1840	
<b>Prep Method:</b> LC65				Date Prepared:	08/31/2009 0727	
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	19	110	1.0

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

Client Sample ID: OC-SB-448-8.0/10-XXX  
 Lab Sample ID: 360-24251-22

Date Sampled: 08/25/2009 1030  
 Date Received: 08/25/2009 1800  
 Client Matrix: Solid  
 Percent Solids: 88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodimethylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	32 J	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	28 J	ug/Kg	11	38	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	69	%		30 - 130	
2-Fluorophenol	95	%		30 - 130	
2-Fluorobiphenyl	80	%		30 - 130	
Nitrobenzene-d5	87	%		30 - 130	
Phenol-d5	93	%		30 - 130	
Terphenyl-d14	98	%		30 - 130	
Tentatively Identified Compounds					
Unknown	330	T J	ug/Kg	19.34	1.0
Pyridine	7.5	J	ug/Kg	6.05	1.0
N-Nitrosodiphenylamine	57		ug/Kg	11	38
Acceptance Limits					
Method: 8270C LL			Date Analyzed:	09/16/2009 1940	
Prep Method: 3546			Date Prepared:	09/03/2009 1311	
N-Nitrosodiphenylamine	ND		ug/Kg	11	38
Method: 8270C LL Run Type: DL			Date Analyzed:	09/16/2009 1940	
Prep Method: 3546			Date Prepared:	09/03/2009 1311	
Diphenylamine	47		ug/Kg	2.3	38
Method: 8270C LL			Date Analyzed:	09/03/2009 .0212	
Prep Method: 3550B			Date Prepared:	09/02/2009 1439	
N-Nitrosodimethylamine	ND		ug/Kg	1.3	5.6
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	61	%		30 - 130	
2-Fluorobiphenyl	49	%		30 - 130	
2-Fluorophenol	52	%		30 - 130	
Nitrobenzene-d5	52	%		30 - 130	
Phenol-d5	55	%		30 - 130	
Terphenyl-d14	68	%		30 - 130	
Method: 8315A			Date Analyzed:	08/31/2009 1922	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0720	
Formaldehyde	280		ug/Kg	83	110
Acetaldehyde	43	J	ug/Kg	31	210

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Job Number: 360-24251-1  
 Sdg Number: OCRI-05

**Client Sample ID:** OC-EBK-004  
**Lab Sample ID:** 360-24251-26

Date Sampled: 08/24/2009 1820  
 Date Received: 08/25/2009 1800  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Diphenylamine	ND	ug/L	0.50	5.0	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	75	%		15 - 110	
2-Fluorobiphenyl	70	%		30 - 130	
2-Fluorophenol	20	%		15 - 110	
Nitrobenzene-d5	74	%		30 - 130	
Phenol-d5	11	X	%	15 - 110	
Terphenyl-d14	81	%		30 - 130	
2,4,6-Tribromophenol	75	%		15 - 110	
2-Fluorobiphenyl	70	%		30 - 130	
2-Fluorophenol	20	%		15 - 110	
Nitrobenzene-d5	74	%		30 - 130	
Phenol-d5	11	X	%	15 - 110	
Terphenyl-d14	81	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Unknown	1.5	T J	ug/L	4.82	1.0
Tetrachloroethylene	0.88	T J N	ug/L	127-18-4	6.77
Unknown	15	T J	ug/L		1.0
Phenol, 2,4-bis(1,1-dimethylethyl)-	0.92	T J N	ug/L	96-76-4	11.09
Unknown	7.9	T J	ug/L		1.0
Unknown	2.3	T J	ug/L		12.77
Pyridine	0.20	J *	ug/L	110-86-1	6.01
<b>Method:</b> 8315A			Date Analyzed:	08/29/2009 1609	
<b>Prep Method:</b> 8315_W_Prep			Date Prepared:	08/27/2009 1646	
Formaldehyde	6.9	J	ug/L	50	1.0
Acetaldehyde	ND		ug/L	100	1.0
<b>Method:</b> LC65			Date Analyzed:	08/29/2009 1515	
<b>Prep Method:</b> LC65			Date Prepared:	08/26/2009 2200	
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	1.0
<b>Method:</b> 6010B			Date Analyzed:	08/26/2009 1302	
<b>Prep Method:</b> 3010A			Date Prepared:	08/26/2009 0733	
Aluminum	ND		ug/L	39	1.0
Antimony	ND		ug/L	2.9	1.0
Barium	ND		ug/L	2.0	1.0
Arsenic	ND		ug/L	2.3	1.0
Beryllium	ND		ug/L	0.20	1.0
Cadmium	ND		ug/L	0.20	1.0
Calcium	60	J	ug/L	59	1.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: C Ricardi

Reviewer: C Ricardi

24309

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

No Issues

2. Holding Time and Sample Preservation/Collection

Collect 8/26 Prep Date 8/31 5 day  
8/25 6 day

3. QC Blanks

MBSK - ND

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

24309-23 SB-430 8/10 Acet - 37/39  
Form - 250/250

6. Lab Duplicate Precision (20/35)

N/A

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24309-23

within limits

8. Surrogate Recovery (if applicable)

N/A

9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24309-1.  
 Sdg Number: OCRI-06

Client Sample ID: OC-SB-402-0.0/1.0-XXX  
 Lab Sample ID: 360-24309-5

Date Sampled: 08/26/2009 1145  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	35	1.0
Pentachlorophenol	ND	ug/Kg	10	35	1.0
Phenanthrene	ND	ug/Kg	10	42	1.0
Phenol	ND	ug/Kg	10	35	1.0
Pyrene	14 J	ug/Kg	10	35	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	81	%		30 - 130	
2-Fluorophenol	75	%		30 - 130	
2-Fluorobiphenyl	73	%		30 - 130	
Nitrobenzene-d5	69	%		30 - 130	
Phenol-d5	71	%		30 - 130	
Terphenyl-d14	85	%		30 - 130	
Cas Number RT					
Tentatively Identified Compounds					
Eicosane	61	T J N	ug/Kg	112-95-8	13.21
E-15-Heptadecenal	270	T J N	ug/Kg	1000130-97-9	13.89
Cyclotetacosane	460	T J N	ug/Kg	297-3-0	14.55
Cyclotetacosane	180	T J N	ug/Kg	297-3-0	15.22
Z-14-Nonacosane	130	T J N	ug/Kg	1000131-18-9	15.85
D-Friedoolean-14-ene, 3-methoxy-, (3.bet)	170	T J N	ug/Kg	14021-23-9	16.41
D:A-Friedoolean-6-ene	130	T J N	ug/Kg	56588-25-1	16.49
Date Analyzed: 09/03/2009 0242					
Date Prepared: 09/02/2009 1439					
Method: 8270C LL			1.2	5.2	1.0
Prep Method: 3550B	ND	ug/Kg			
N-Nitrosodimethylamine					
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	61	%		30 - 130	
2-Fluorobiphenyl	54	%		30 - 130	
2-Fluorophenol	56	%		30 - 130	
Nitrobenzene-d5	60	%		30 - 130	
Phenol-d5	60	%		30 - 130	
Terphenyl-d14	59	%		30 - 130	
Date Analyzed: 08/31/2009 2057					
Date Prepared: 08/31/2009 0729					
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	240	ug/Kg	79	100	1.0
Acetaldehyde	44 J	ug/Kg	29	200	1.0
Date Analyzed: 09/02/2009 1452					
Date Prepared: 08/31/2009 0735					
Method: LC65					
Prep Method: LC65					
Phthalic Acid/Phthalic anhydride	36 J p	ug/Kg	17	95	1.0

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

Client Sample ID: OC-SB-402-7.5/9.5-XXX  
 Lab Sample ID: 360-24309-6

Date Sampled: 08/26/2009 1200  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Nitrobenzene	ND	ug/Kg	11	36	1.0
N-Nitrosodimethylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	15 J	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	15 J	ug/Kg	11	36	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	80	%		30 - 130	
2-Fluorophenol	79	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
Nitrobenzene-d5	67	%		30 - 130	
Phenol-d5	77	%		30 - 130	
Terphenyl-d14	77	%		30 - 130	
Tentatively Identified Compounds					
E-15-Heptadecenal	68	T J N	ug/Kg	1000130-97-9	13.63
Cyclotetrasosane	96	T J N	ug/Kg	297-3-0	14.28
Squalene	65	T J N	ug/Kg	7683-64-9	14.65
Unknown	38	T J	ug/Kg		14.91
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorobiphenyl	51	%		30 - 130	
2-Fluorophenol	56	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	
Acceptance Limits					
Method: 8270C LL			Date Analyzed:	09/03/2009 0312	
Prep Method: 3550B			Date Prepared:	09/02/2009 1439	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.5	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorobiphenyl	51	%		30 - 130	
2-Fluorophenol	56	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	
Acceptance Limits					
Method: 8315A			Date Analyzed:	08/31/2009 2109	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0729	
Formaldehyde	110	ug/Kg	83	110	1.0
Acetaldehyde	38 J	ug/Kg	31	210	1.0
Acceptance Limits					
Method: LC65			Date Analyzed:	09/01/2009 2048	
Prep Method: LC65			Date Prepared:	08/31/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

Client Sample ID: OC-SB-407-0.0/1.0-XXX  
 Lab Sample ID: 360-24309-7

Date Sampled: 08/26/2009 1010  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Hexachloroethane	ND	ug/Kg	11	36	1.0
Indeno[1,2,3-cd]pyrene	ND	ug/Kg	11	36	1.0
Isophorone	ND	ug/Kg	11	36	1.0
Naphthalene	ND	ug/Kg	11	86	1.0
Nitrobenzene	ND	ug/Kg	11	36	1.0
N-Nitrosodimethylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	32	J	ug/Kg	11	43
Phenanthrene	ND	ug/Kg	11	36	1.0
Phenol	30	J	ug/Kg	11	36
Pyrene					
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	34	%		30 - 130	
2-Fluorophenol	38	%		30 - 130	
2-Fluorobiphenyl	32	%		30 - 130	
Nitrobenzene-d5	36	%		30 - 130	
Phenol-d5	39	%		30 - 130	
Terphenyl-d14	32	%		30 - 130	
Tentatively Identified Compounds					
			Cas Number	RT	
1-Heneicosyl formate	1100	T J N	77899-3-7	15.02	1.0
Unknown	3700	T J		16.17	1.0
Unknown	14	T J		16.71	1.0
Unknown	17	T J	ug/Kg	17.30	1.0
Method: 8270C LL					
Date Analyzed: 09/05/2009 1025					
Prep Method: 3550B					
Date Prepared: 09/02/2009 1439					
N-Nitrosodimethylamine					
	ND	ug/Kg	1.3	5.5	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorobiphenyl	46	%		30 - 130	
2-Fluorophenol	41	%		30 - 130	
Nitrobenzene-d5	52	%		30 - 130	
Phenol-d5	44	%		30 - 130	
Terphenyl-d14	58	%		30 - 130	
Method: 8315A					
Date Analyzed: 08/31/2009 2120					
Prep Method: 8315_S_Prep					
Date Prepared: 08/31/2009 0729					
Formaldehyde	220	ug/Kg	83	110	1.0
Acetaldehyde	48	J	ug/Kg	31	210
Date Analyzed: 09/01/2009 2101					
Method: LC65					

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Job Number: 360-24309-1  
Sdg Number: OCRI-06

Client Sample ID: OC-SB-407-26/28-XXX  
Lab Sample ID: 360-24309-8

Date Sampled: 08/26/2009 1125  
Date Received: 08/26/2009 1735  
Client Matrix: Solid  
Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	08/31/2009 2132	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0729	
Formaldehyde	230	ug/Kg	85	110	1.0
Acetaldehyde	52	J	32	220	

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

**Client Sample ID:** OC-SB-407-8.0/10.0-XXX  
**Lab Sample ID:** 360-24309-9

Date Sampled: 08/26/2009 1020  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 82

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0	
Pentachlorophenol	ND	ug/Kg	12	40	1.0	
Phenanthrene	16	J	ug/Kg	12	48	1.0
Phenol	ND	ug/Kg	12	40	1.0	
Pyrene	20	J	ug/Kg	12	40	1.0
<b>Surrogate</b>						
2,4,6-Tribromophenol	91	%		30 - 130		
2-Fluorophenol	86	%		30 - 130		
2-Fluorobiphenyl	73	%		30 - 130		
Nitrobenzene-d5	79	%		30 - 130		
Phenol-d5	84	%		30 - 130		
Terphenyl-d14	85	%		30 - 130		
<b>Tentatively Identified Compounds</b>						
Tricosane	32	T J N	ug/Kg	638-67-5	12.98	1.0
Heptacosane, 1-chloro-	94	T J N	ug/Kg	62016-79-9	13.64	1.0
Heptadecane	95	T J N	ug/Kg	629-78-7	14.28	1.0
2-Nonadecanone	57	T J N	ug/Kg	629-66-3	14.33	1.0
2-Heptacosanone	190	T J N	ug/Kg	7796-19-2	14.97	1.0
Stigmastan-6,22-dien, 3,5-dedihydro-	63	T J N	ug/Kg	1000214-20-5	16.11	1.0
gamma.-Sitosterol	79	T J N	ug/Kg	83-47-6	16.30	1.0
Unknown	330	T J	ug/Kg		16.53	1.0
<b>Method: 8270C LL</b>						
<b>Prep Method: 3550B</b>						
N-Nitrosodimethylamine	ND	ug/Kg	1.4	6.1	1.0	
<b>Surrogate</b>						
2,4,6-Tribromophenol	59	%		30 - 130		
2-Fluorobiphenyl	53	%		30 - 130		
2-Fluorophenol	56	%		30 - 130		
Nitrobenzene-d5	58	%		30 - 130		
Phenol-d5	60	%		30 - 130		
Terphenyl-d14	63	%		30 - 130		
<b>Method: 8315A</b>						
<b>Prep Method: 8315_S_Prep</b>						
Formaldehyde	200	ug/Kg	89	110	1.0	
Acetaldehyde	49	J	ug/Kg	33	230	1.0
<b>Method: LC65</b>						
<b>Prep Method: LC65</b>						
Date Analyzed: 09/03/2009 0413						
Date Prepared: 09/02/2009 1439						
Acceptance Limits						

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

Client Sample ID: OC-SB-422-0.0/1.0-XXX  
 Lab Sample ID: 360-24309-15

Date Sampled: 08/25/2009 1635  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Indeno[1,2,3-cd]pyrene	ND	ug/Kg	10	34	1.0
Isophorone	ND	ug/Kg	10	34	1.0
Naphthalene	ND	ug/Kg	10	82	1.0
Nitrobenzene	ND	ug/Kg	10	34	1.0
N-Nitrosodimethylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	ND	ug/Kg	10	34	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	69	%		30 - 130	
2-Fluorophenol	70	%		30 - 130	
2-Fluorobiphenyl	64	%		30 - 130	
Nitrobenzene-d5	70	%		30 - 130	
Phenol-d5	65	%		30 - 130	
Terphenyl-d14	71	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
n-Hexadecanoic acid	52	T J N	57-10-3	12.51	1.0
1-Docosene	37	T J N	1599-67-3	15.61	1.0
1-Dotriacontanol	67	T J N	6624-79-9	16.69	1.0
Erucamide	130	T J N	112-84-5	17.18	1.0
Squalene	56	T J N	7683-64-9	17.35	1.0
Method: 8270C LL			Date Analyzed:	09/05/2009 1347	
Prep Method: 3550B			Date Prepared:	09/02/2009 1439	
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	63	%	30 - 130		
2-Fluorobiphenyl	50	%	30 - 130		
2-Fluorophenol	55	%	30 - 130		
Nitrobenzene-d5	58	%	30 - 130		
Phenol-d5	57	%	30 - 130		
Terphenyl-d14	62	%	30 - 130		
Method: 8315A			Date Analyzed:	09/02/2009 1443	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0729	
Formaldehyde	330	ug/Kg	81	100	1.0
Acetaldehyde	43	J	ug/Kg	30	210

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Job Number: 360-24309-1  
Sdg Number: OCRI-06

Client Sample ID: OC-SB-422-13/15-XXX  
Lab Sample ID: 360-24309-16

Date Sampled: 08/25/2009 1710  
Date Received: 08/26/2009 1735  
Client Matrix: Solid  
Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/02/2009 1455	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 .0729	
Formaldehyde	340	ug/Kg	84	110	1.0
Acetaldehyde	47	J	31	220	1.0

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

**Client Sample ID:** OC-SB-422-6.0/8.0-XXX  
**Lab Sample ID:** 360-24309-17

Date Sampled: 08/25/2009 1645  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0
Surrogate					
2,4,6-Tribromophenol	68	%		30 - 130	
2-Fluorophenol	75	%		30 - 130	
2-Fluorobiphenyl	67	%		30 - 130	
Nitrobenzene-d5	69	%		30 - 130	
Phenol-d5	70	%		30 - 130	
Terphenyl-d14	76	%		30 - 130	
Tentatively Identified Compounds					
Benzothiazole, 2-(methylthio)-	35	T J N	ug/Kg	615-22-5	11.41
1-Octadecanol	180	T J N	ug/Kg	112-92-5	15.59
Heptacosane	50	T J N	ug/Kg	593-49-7	16.61
1-Docosene	160	T J N	ug/Kg	1599-67-3	16.67
Squalene	86	T J N	ug/Kg	7683-64-9	17.35
2,2,4a,6a,8a,9,12b,14a-Octamethyl-1,2,3,	76	T J N	ug/Kg	1000194-63-7	22.05
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.7	1.0
Acceptance Limits					
2,4,6-Tribromophenol	87	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
2-Fluorophenol	79	%		30 - 130	
Nitrobenzene-d5	88	%		30 - 130	
Phenol-d5	81	%		30 - 130	
Terphenyl-d14	97	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	220	ug/Kg	88	110	1.0
Acetaldehyde	40	J	ug/Kg	33	230
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

**Client Sample ID:** OC-SB-430-0.0/1.0-XXX  
**Lab Sample ID:** 360-24309-20

Date Sampled: 08/25/2009 1450  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	40	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	ND	ug/Kg	10	34	1.0
Surrogate					
2,4,6-Tribromophenol	66	%		30 - 130	
2-Fluorophenol	76	%		30 - 130	
2-Fluorobiphenyl	65	%		30 - 130	
Nitrobenzene-d5	69	%		30 - 130	
Phenol-d5	67	%		30 - 130	
Terphenyl-d14	86	%		30 - 130	
Tentatively Identified Compounds					
Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-me	56	T J N	ug/Kg	18172-67-3	8.01
Butylated Hydroxytoluene	32	T J N	ug/Kg	128-37-0	10.81
Unknown	59	T J	ug/Kg		11.64
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	38	T J N	ug/Kg	3910-35-8	11.77
Heneicosane, 11-decyl-	48	T J N	ug/Kg	55320-6-4	17.19
Squalene	87	T J N	ug/Kg	7683-64-9	17.35
1,4-Dimethyl-8-isopropylidenetricyclo[5.	96	T J N	ug/Kg	1000140-7-7	21.75
Method: 8270C LL					
Prep Method: 3550B					
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.1	1.0
Surrogate					
2,4,6-Tribromophenol	82	%		30 - 130	
2-Fluorobiphenyl	69	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
Nitrobenzene-d5	77	%		30 - 130	
Phenol-d5	75	%		30 - 130	
Terphenyl-d14	98	%		30 - 130	
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	190	ug/Kg	79	100	1.0
Acetaldehyde	39	J	ug/Kg	29	200
Method: LC65					
Prep Method: LC65					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0

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Job Number: 360-24309-1  
Sdg Number: OCRI-06

Client Sample ID: OC-SB-430-19/21-XXX  
Lab Sample ID: 360-24309-21

Date Sampled: 08/25/2009 1535  
Date Received: 08/26/2009 1735  
Client Matrix: Solid  
Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/02/2009 1531	
Prep Method: 8315_S_Prep			Date Prepared:	08/31/2009 0729	
Formaldehyde	810	ug/Kg	80	100	1.0
Acetaldehyde	41	J	30	210	1.0

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

**Client Sample ID:** OC-SB-430-8.0/10-DUP  
**Lab Sample ID:** 360-24309-22

Date Sampled: 08/25/2009 1500  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0	
Pentachlorophenol	ND	ug/Kg	11	35	1.0	
Phenanthrene	ND	ug/Kg	11	42	1.0	
Phenol	ND	ug/Kg	11	35	1.0	
Pyrene	ND	ug/Kg	11	35	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	60	%		30 - 130		
2-Fluorophenol	70	%		30 - 130		
2-Fluorobiphenyl	59	%		30 - 130		
Nitrobenzene-d5	61	%		30 - 130		
Phenol-d5	65	%		30 - 130		
Terphenyl-d14	73	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Unknown	2900	T J	ug/Kg		6.85	1.0
Butylated Hydroxytoluene	35	T J N	ug/Kg	128-37-0	10.81	1.0
Unknown	70	T J	ug/Kg		11.64	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	46	T J N	ug/Kg	3910-35-8	11.77	1.0
1-Docosene	76	T J N	ug/Kg	1599-67-3	15.59	1.0
Heptacosane	56	T J N	ug/Kg	593-49-7	16.61	1.0
1-Docosene	54	T J N	ug/Kg	1599-67-3	16.68	1.0
Heptadecane	100	T J N	ug/Kg	629-78-7	17.18	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/06/2009 1411	
<b>Prep Method:</b> 3550B				Date Prepared:	09/06/2009 0900	
N-Nitrosodimethylamine	ND		ug/Kg	1.3	5.4	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	95	%		30 - 130		
2-Fluorobiphenyl	80	%		30 - 130		
2-Fluorophenol	84	%		30 - 130		
Nitrobenzene-d5	95	%		30 - 130		
Phenol-d5	87	%		30 - 130		
Terphenyl-d14	101	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	09/02/2009 1542	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	08/31/2009 0729	
Formaldehyde	250	J	ug/Kg	82	100	1.0
Acetaldehyde	39	J	ug/Kg	30	210	1.0
<b>Method:</b> LC65				Date Analyzed:	09/01/2009 2257	
<b>Prep Method:</b> LC65				Date Prepared:	08/31/2009 0735	

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Job Number: 360-24309-1  
 Sdg Number: OCRI-06

Client Sample ID: OC-SB-430-8.0/10-XXX  
 Lab Sample ID: 360-24309-23

Date Sampled: 08/25/2009 1500  
 Date Received: 08/26/2009 1735  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	42	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	ND	ug/Kg	11	35	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	58	%		30 - 130	
2-Fluorophenol	70	%		30 - 130	
2-Fluorobiphenyl	61	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	60	%		30 - 130	
Terphenyl-d14	71	%		30 - 130	
Cas Number					
Tentatively Identified Compounds					
Heneicosane, 11-pentyl-	27	T J N	ug/Kg	14739-72-1	15.54
17-Pentatriacontene	32	T J N	ug/Kg	6971-40-0	15.59
Heptacosane	30	T J N	ug/Kg	593-49-7	16.61
1-Docosene	28	T J N	ug/Kg	1599-67-3	16.69
9-Octadecenamide, (Z)-	58	T J N	ug/Kg	301-2-0	17.18
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	140	T J N	ug/Kg	111-2-4	17.35
Date Analyzed: 09/06/2009 1441					
Date Prepared: 09/06/2009 0900					
Method: 8270C LL			ug/Kg	1.2	5.3
Prep Method: 3550B					1.0
N-Nitrosodimethylamine	ND				
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	94	%		30 - 130	
2-Fluorobiphenyl	78	%		30 - 130	
2-Fluorophenol	82	%		30 - 130	
Nitrobenzene-d5	88	%		30 - 130	
Phenol-d5	87	%		30 - 130	
Terphenyl-d14	119	%		30 - 130	
Date Analyzed: 08/31/2009 2021					
Date Prepared: 08/31/2009 0729					
Method: 8315A			ug/Kg	80	100
Prep Method: 8315_S_Prep			ug/Kg	30	210
Formaldehyde	250	J			
Acetaldehyde	37	J			
Date Analyzed: 09/01/2009 1957					
Date Prepared: 08/31/2009 0735					
Method: LC65			ug/Kg	19	100
Prep Method: LC65					
Phthalic Acid/Phthalic anhydride	ND				

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24327  
Date: 3/25/10      Reviewer: C Ricardi

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

(Soil) Acetaldehyde in MBK > RL

(H<sub>2</sub>O) Form in MBK > RL

## 2. Holding Time and Sample Preservation/Collection

Cooler temp 7-10°C SB-403 06/10 and 13/15, 904, 909, 410

Collected 8/27 prep 9/1 = 5 day -418 -411

## 3. QC Blanks

EBK-005 Form 8.1 JB <sup>6</sup> day Received within 1-2 day of Collection. No Qual

WATER MBK - 8.29 J Form

Soil MBK - Acet 30.4 J ~~all at RL~~

## 4. Laboratory Control Sample Review (80-120%)

✓ Within limits

## 5. Field Duplicate Precision (30/50)

24327-12 SB-410 6.0/8.0 Acet 54/57 due to MBK  
Form 660/600 n

## 6. Lab Duplicate Precision (20/35)

NP

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24327-12 SB-410 6.0/8.0 Within limits

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

**Client Sample ID:** OC-SB-403-0.0/1.0-XXX  
**Lab Sample ID:** 360-24327-1

Date Sampled: 08/26/2009 1325  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	42	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	ND	ug/Kg	11	35	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	33	%		30 - 130	
2-Fluorophenol	67	%		30 - 130	
2-Fluorobiphenyl	65	%		30 - 130	
Nitrobenzene-d5	69	%		30 - 130	
Phenol-d5	61	%		30 - 130	
Terphenyl-d14	78	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Unknown	40	T J	ug/Kg		13.35
Pentacosane	60	T J N	ug/Kg	629-99-2	15.54
1-Docosene	120	T J N	ug/Kg	1599-67-3	16.68
Squalene	260	T J N	ug/Kg	7683-64-9	17.35
D-Friedoolean-14-ene, 3-methoxy-, (3.bet)	97	T J N	ug/Kg	14021-23-9	21.75
<b>Method:</b> 8270C LL				Date Analyzed:	09/06/2009 1611
<b>Prep Method:</b> 3550B				Date Prepared:	09/06/2009 0900
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.3	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	28	X	%	30 - 130	
2-Fluorobiphenyl	75		%	30 - 130	
2-Fluorophenol	71		%	30 - 130	
Nitrobenzene-d5	85		%	30 - 130	
Phenol-d5	81		%	30 - 130	
Terphenyl-d14	105		%	30 - 130	
<b>Method:</b> 8315A				Date Analyzed:	09/03/2009 1218
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/01/2009 0738
Formaldehyde	280	ug/Kg	82	110	1.0
Acetaldehyde	47	ug/Kg	31	210	1.0
<b>Method:</b> LC65				Date Analyzed:	09/02/2009 1510
<b>Prep Method:</b> LC65				Date Prepared:	09/01/2009 0744
Phthalic Acid/Phthalic anhydride	77	J p	ug/Kg	18	100
<b>Method:</b> 6010B				Date Analyzed:	08/31/2009 1441

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Job Number: 360-24327-1  
Sdg Number: OCRI-07

Client Sample ID: OC-SB-403-13/15-XXX  
Lab Sample ID: 360-24327-2

Date Sampled: 08/26/2009 1340  
Date Received: 08/27/2009 1710  
Client Matrix: Solid  
Percent Solids: 80

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: .8315A			Date Analyzed:	09/03/2009 1230	
Prep Method: 8315_S_Prep			Date Prepared:	09/01/2009 0738	
Formaldehyde	120 J	ug/Kg	96	120	1.0
Acetaldehyde	<u>36</u> <u>4</u> <u>JB</u>	ug/Kg	36	250	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-403-6.0/8.0-XXX  
 Lab Sample ID: 360-24327-3

Date Sampled: 08/26/2009 1330  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 62

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	160	540	10
N-Nitrosodiphenylamine	ND	ug/Kg	160	540	10
Pentachlorophenol	ND	ug/Kg	160	540	10
Phenanthrene	ND	ug/Kg	160	650	10
Phenol	ND	ug/Kg	160	540	10
Pyrene	ND	ug/Kg	160	540	10
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	42	%		30 - 130	
2-Fluorophenol	35	%		30 - 130	
2-Fluorobiphenyl	41	%		30 - 130	
Nitrobenzene-d5	49	%		30 - 130	
Phenol-d5	27	X	%	30 - 130	
Terphenyl-d14	42	%		30 - 130	
Tentatively Identified Compounds					
2,4-Diphenyl-4-methyl-1(E)-pentene	1000	T J N	ug/Kg	1000111-58-0	12.08
1-Octadecene	2700	T J N	ug/Kg	112-88-9	14.27
Cyclohexadecane, 1,2-diethyl-	4600	T J N	ug/Kg	1000155-85-3	15.61
Heptacosane	3500	T J N	ug/Kg	593-49-7	16.61
Z-12-Pentacosene	6300	T J N	ug/Kg	1000131-9-4	16.69
1,21-Docosadiene	2500	T J N	ug/Kg	53057-53-7	17.48
Hexacosane	4800	T J N	ug/Kg	630-1-3	17.85
16-Octadecenal	2500	T J N	ug/Kg	56554-87-1	18.96
Heneicosane, 11-pentyl-	5100	T J N	ug/Kg	14739-72-1	19.40
2-Pentacosanone	4800	T J N	ug/Kg	75207-54-4	19.64
Method: 8270C LL					
Date Analyzed: 09/06/2009 1811					
Prep Method: 3550B					
Date Prepared: 09/06/2009 0900					
N-Nitrosodimethylamine	ND	ug/Kg	37	160	10
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	70	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
2-Fluorophenol	49	%		30 - 130	
Nitrobenzene-d5	20	X	%	30 - 130	
Phenol-d5	51	%		30 - 130	
Terphenyl-d14	83	%		30 - 130	
Method: 8315A					
Date Analyzed: 09/03/2009 1242					
Prep Method: 8315_S_Prep					
Date Prepared: 09/01/2009 0738					
Formaldehyde	430	ug/Kg	120	160	1.0
Acetaldehyde	66	ug/Kg	46	320	1.0

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Job Number: 360-24327-1  
Sdg Number: OCRI-07

Client Sample ID: OC-SB-404-13/15-XXX  
Lab Sample ID: 360-24327-4

Date Sampled: 08/26/2009 1540  
Date Received: 08/27/2009 1710  
Client Matrix: Solid  
Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/03/2009 1253	
Prep Method: 8315_S_Prep			Date Prepared:	09/01/2009 0738	
Formaldehyde	270	ug/Kg	83	110	1.0
Acetaldehyde	40	ug/Kg	31	210	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-404-5.0/7.0-XXX  
 Lab Sample ID: 360-24327-5

Date Sampled: 08/26/2009 1520  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	38	1.0
Pentachlorophenol	ND	ug/Kg	12	38	1.0
Phenanthrene	ND	ug/Kg	12	46	1.0
Phenol	ND	ug/Kg	12	38	1.0
Pyrene	ND	ug/Kg	12	38	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	68	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
2-Fluorobiphenyl	59	%		30 - 130	
Nitrobenzene-d5	61	%		30 - 130	
Phenol-d5	67	%		30 - 130	
Terphenyl-d14	71	%		30 - 130	
Cas Number					
Tentatively Identified Compounds					
Unknown	15	T J	ug/Kg	5.56	1.0
o-Terphenyl	18	T J N	ug/Kg	11.50	1.0
Tridecane	14	T J N	ug/Kg	12.23	1.0
Ethanol, 2-(tetradecyloxy)-	26	T J N	ug/Kg	13.64	1.0
Squalene	1000	T J N	ug/Kg	14.65	1.0
17-(1,5-Dimethylhexyl)-10,13-dimethyl-2,	51	T J N	ug/Kg	15.72	1.0
Acceptance Limits					
Method: 8270C LL			Date Analyzed:	09/06/2009 1741	
Prep Method: 3550B			Date Prepared:	09/06/2009 0900	
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.8	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	87	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
2-Fluorophenol	77	%		30 - 130	
Nitrobenzene-d5	85	%		30 - 130	
Phenol-d5	80	%		30 - 130	
Terphenyl-d14	113	%		30 - 130	
Date Analyzed:					
Method: 8315A			09/03/2009 1305		
Prep Method: 8315_S_Prep			Date Prepared:	09/01/2009 0738	
Formaldehyde	220	ug/Kg	91	120	1.0
Acetaldehyde	42	ug/Kg	34	230	1.0
Acceptance Limits					
Method: LC65			Date Analyzed:	09/02/2009 0039	
Prep Method: LC65			Date Prepared:	09/01/2009 0744	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

**Client Sample ID:** OC-SB-409-0.0/1.0-XXX  
**Lab Sample ID:** 360-24327-6

Date Sampled: 08/26/2009 1650  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	ND	ug/Kg	10	34	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	75	%		30 - 130	
2-Fluorophenol	73	%		30 - 130	
2-Fluorobiphenyl	67	%		30 - 130	
Nitrobenzene-d5	65	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	73	%		30 - 130	
Cas Number RT					
Tentatively Identified Compounds					
Unknown	17	T J	ug/Kg	10.64	1.0
5-Eicosene, (E)-	130	T J N	ug/Kg	13.64	1.0
Cyclotetrasane	160	T J N	ug/Kg	297-3-0	1.0
Squalene	650	T J N	ug/Kg	7683-64-9	1.0
1-Nonadecene	140	T J N	ug/Kg	18435-45-5	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	65	%		30 - 130	
2-Fluorobiphenyl	69	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
Nitrobenzene-d5	62	%		30 - 130	
Phenol-d5	68	%		30 - 130	
Terphenyl-d14	66	%		30 - 130	
Date Analyzed: 09/11/2009 0822					
Date Prepared: 09/09/2009 1112					
<b>Method:</b> 8270C LL		ug/Kg	1.2	5.2	1.0
<b>Prep Method:</b> 3550B					
N-Nitrosodimethylamine	ND				
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	65	%		30 - 130	
2-Fluorobiphenyl	69	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
Nitrobenzene-d5	62	%		30 - 130	
Phenol-d5	68	%		30 - 130	
Terphenyl-d14	66	%		30 - 130	
Date Analyzed: 09/03/2009 1317					
Date Prepared: 09/01/2009 0738					
<b>Method:</b> 8315A		ug/Kg	80	100	1.0
<b>Prep Method:</b> 8315_S_Prep		ug/Kg	30	200	1.0
Formaldehyde	330				
Acetaldehyde	39				
Date Analyzed: 09/02/2009 0052					
Date Prepared: 09/01/2009 0744					
<b>Method:</b> LC65		ug/Kg	18	100	1.0
<b>Prep Method:</b> LC65					
Phthalic Acid/Phthalic anhydride	ND				
Date Analyzed: 08/31/2009 1450					
<b>Method:</b> 6010B					

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Job Number: 360-24327-1  
Sdg Number: OCRI-07

Client Sample ID: OC-SB-409-15/17-XXX  
Lab Sample ID: 360-24327-7

Date Sampled: 08/26/2009 1715  
Date Received: 08/27/2009 1710  
Client Matrix: Solid  
Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/03/2009 1341	
Prep Method: 8315_S_Prep			Date Prepared:	09/01/2009 0957	
Formaldehyde	300	ug/Kg	86	110	1.0
Acetaldehyde	32	ug/Kg	32	220	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-409-6.0/8.0-XXX  
 Lab Sample ID: 360-24327-8

Date Sampled: 08/26/2009 1705  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 79

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	13	42	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	13	42	1.0	
Pentachlorophenol	ND	ug/Kg	13	42	1.0	
Phenanthrene	ND	ug/Kg	13	50	1.0	
Phenol	ND	ug/Kg	13	42	1.0	
Pyrene	ND	ug/Kg	13	42	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	74	%		30 - 130		
2-Fluorophenol	71	%		30 - 130		
2-Fluorobiphenyl	62	%		30 - 130		
Nitrobenzene-d5	62	%		30 - 130		
Phenol-d5	71	%		30 - 130		
Terphenyl-d14	73	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Unknown	84	T J	ug/Kg		9.72	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	25	T J N	ug/Kg	3910-35-8	10.57	1.0
Unknown	20	T J	ug/Kg		10.75	1.0
Unknown	38	T J	ug/Kg		14.70	1.0
Method: 8270C LL				Date Analyzed:	09/11/2009 0154	
Prep Method: 3550B				Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND	ug/Kg	1.5		6.3	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	78	%		30 - 130		
2-Fluorobiphenyl	52	%		30 - 130		
2-Fluorophenol	49	%		30 - 130		
Nitrobenzene-d5	48	%		30 - 130		
Phenol-d5	55	%		30 - 130		
Terphenyl-d14	58	%		30 - 130		
Method: 8315A				Date Analyzed:	09/03/2009 1352	
Prep Method: 8315_S_Prep				Date Prepared:	09/01/2009 0738	
Formaldehyde	2100	ug/Kg	99		130	1.0
Acetaldehyde	78	ug/Kg	37		250	1.0
Method: LC65				Date Analyzed:	09/02/2009 0118	
Prep Method: LC65				Date Prepared:	09/01/2009 0744	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	22		120	1.0
Method: 6010B				Date Analyzed:	08/31/2009 1453	
Prep Method: 3050B				Date Prepared:	08/31/2009 0817	

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

**Client Sample ID:** OC-SB-410-0.0/1.0-XXX  
**Lab Sample ID:** 360-24327-9

Date Sampled: 08/27/2009 1010  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate					Acceptance Limits
2,4,6-Tribromophenol	0	XD	%	30 - 130	
2-Fluorophenol	0	XD	%	30 - 130	
2-Fluorobiphenyl	0	XD	%	30 - 130	
Nitrobenzene-d5	0	XD	%	30 - 130	
Phenol-d5	0	XD	%	30 - 130	
Terphenyl-d14	0	XD	%	30 - 130	
<b>Method: 8270C LL</b>					Date Analyzed: 09/11/2009 0722
<b>Prep Method: 3550B</b>					Date Prepared: 09/09/2009 1112
N-Nitrosodimethylamine	ND	ug/Kg	13	56	10
Surrogate					Acceptance Limits
2,4,6-Tribromophenol	80	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
2-Fluorophenol	68	%		30 - 130	
Nitrobenzene-d5	70	%		30 - 130	
Phenol-d5	73	%		30 - 130	
Terphenyl-d14	116	%		30 - 130	
<b>Method: 8315A</b>					Date Analyzed: 09/03/2009 1404
<b>Prep Method: 8315_S_Prep</b>					Date Prepared: 09/01/2009 0758
Formaldehyde	280	ug/Kg	86	110	1.0
Acetaldehyde	340	ug/Kg	32	220	1.0
<b>Method: LC65</b>					Date Analyzed: 09/02/2009 0753
<b>Prep Method: LC65</b>					Date Prepared: 09/01/2009 0752
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0
<b>Method: 6010B</b>					Date Analyzed: 08/31/2009 1456
<b>Prep Method: 3050B</b>					Date Prepared: 08/31/2009 0817
Aluminum	6600	mg/Kg	0.73	2.8	1.0
Antimony	ND	mg/Kg	0.20	0.56	1.0
Arsenic	2.9	mg/Kg	0.10	1.1	1.0
Barium	12	mg/Kg	0.073	0.56	1.0
Beryllium	0.21	J	0.028	0.23	1.0
Cadmium	0.29	mg/Kg	0.0079	0.23	1.0
Calcium	430	B	2.8	11	1.0
Chromium	30	mg/Kg	0.075	0.56	1.0
Cobalt	2.0	mg/Kg	0.073	0.56	1.0
Copper	8.3	B	0.073	1.1	1.0
Iron	5500	B	0.90	5.6	1.0
Lead	5.4	mg/Kg	0.064	0.56	1.0

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Job Number: 360-24327-1  
Sdg Number: OCRI-07

Client Sample ID: OC-SB-410-17/19-XXX  
Lab Sample ID: 360-24327-10

Date Sampled: 08/27/2009 1115  
Date Received: 08/27/2009 1710  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	790	ug/Kg	85	110	1.0
Acetaldehyde	38	ug/Kg	31	220	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-410-6.0/8.0-DUP  
 Lab Sample ID: 360-24327-11

Date Sampled: 08/27/2009 1015  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 76

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	13	43	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	13	43	1.0
Pentachlorophenol	ND	ug/Kg	13	43	1.0
Phenanthrene	ND	ug/Kg	13	52	1.0
Phenol	ND	ug/Kg	13	43	1.0
Pyrene	21 J	ug/Kg	13	43	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	72	%		30 - 130	
2-Fluorophenol	74	%		30 - 130	
2-Fluorobiphenyl	65	%		30 - 130	
Nitrobenzene-d5	67	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	68	%		30 - 130	
Cas Number RT					
Tentatively Identified Compounds					
Benzothiazole, 2-(methylthio)-	33	T J N	ug/Kg	615-22-5	10.10
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	22	T J N	ug/Kg	3910-35-8	10.57
Cyclic octaatomic sulfur	20	T J N	ug/Kg	10544-50-0	12.12
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	64	T J N	ug/Kg	111-2-4	14.47
Acceptance Limits					
Method: 8270C LL			Date Analyzed:	09/11/2009 0254	
Prep Method: 3550B			Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND	ug/Kg	1.5	6.6	1.0
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	64	%		30 - 130	
2-Fluorobiphenyl	56	%		30 - 130	
2-Fluorophenol	55	%		30 - 130	
Nitrobenzene-d5	55	%		30 - 130	
Phenol-d5	62	%		30 - 130	
Terphenyl-d14	57	%		30 - 130	
Date Analyzed: 09/03/2009 1428					
Method: 8315A			Date Prepared:	09/01/2009 0758	
Prep Method: 8315_S_Prep			ug/Kg	100	1.0
Formaldehyde	660	ug/Kg	37	260	1.0
Acetaldehyde	54	ug/Kg			
Date Analyzed: 09/02/2009 0819					
Method: LC65			Date Prepared:	09/01/2009 0752	
Prep Method: LC65			ug/Kg	24	1.0
Phthalic Acid/Phthalic anhydride	ND	ug/Kg			
Date Analyzed: 08/31/2009 1459					
Method: 6010B			Date Prepared:	08/31/2009 0817	
Prep Method: 3050B					

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-410-6.0/8.0-XXX  
 Lab Sample ID: 360-24327-12

Date Sampled: 08/27/2009 1015  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 77

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	13	42	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	13	42	1.0
Pentachlorophenol	ND	ug/Kg	13	42	1.0
Phenanthrene	17	J	ug/Kg	13	51
Phenol	ND	ug/Kg	13	42	1.0
Pyrene	29	J	ug/Kg	13	42
Surrogate					
2,4,6-Tribromophenol	73	%		30 - 130	
2-Fluorophenol	79	%		30 - 130	
2-Fluorobiphenyl	67	%		30 - 130	
Nitrobenzene-d5	68	%		30 - 130	
Phenol-d5	78	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	
Tentatively Identified Compounds					
Benzothiazole, 2-(methylthio)-	29	T J N	ug/Kg	615-22-5	10.10
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	19	T J N	ug/Kg	3910-35-8	10.57
Cyclic octaatomic sulfur	20	T J N	ug/Kg	10544-50-0	12.12
Squalene	40	T J N	ug/Kg	7683-64-9	14.47
Method: 8270C LL					
Prep Method: 3550B					
N-Nitrosodimethylamine	ND	ug/Kg	1.5	6.5	1.0
Surrogate					
2,4,6-Tribromophenol	79	%		30 - 130	
2-Fluorobiphenyl	65	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
Nitrobenzene-d5	65	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	66	%		30 - 130	
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	600	ug/Kg	100	130	1.0
Acetaldehyde	57	ug/Kg	37	260	1.0
Method: LC65					
Prep Method: LC65					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	23	130	1.0
Method: 6010B					
Prep Method: 3050B					
Date Analyzed: 09/11/2009 0024					
Date Prepared: 09/09/2009 1112					
Acceptance Limits					
Date Analyzed: 09/03/2009 1107					
Date Prepared: 09/01/2009 0758					
Date Analyzed: 09/02/2009 0832					
Date Prepared: 09/01/2009 0752					
Date Analyzed: 08/31/2009 1421					
Date Prepared: 08/31/2009 0817					

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-411-0.0/1.0-XXX  
 Lab Sample ID: 360-24327-13

Date Sampled: 08/27/2009 1020  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	65	%		30 - 130	
2-Fluorophenol	64	%		30 - 130	
2-Fluorobiphenyl	54	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	64	%		30 - 130	
Terphenyl-d14	55	%		30 - 130	
Tentatively Identified Compounds					
Benzoic acid, 2,4-dihydroxy-6-methyl-, m	130	T J N	ug/Kg	3187-58-4	10.28
Cyclohexadecane	18	T J N	ug/Kg	295-65-8	12.81
Cyclotetacosane	150	T J N	ug/Kg	297-3-0	14.12
Hexadecane-1,2-diol	120	T J N	ug/Kg	6920-24-7	14.45
Oxirane, hexadecyl-	42	T J N	ug/Kg	7390-81-0	15.17
Octacosane	53	T J N	ug/Kg	630-2-4	15.33
Unknown	73	T J	ug/Kg		15.37
Unknown	350	T J	ug/Kg		16.09
Method: 8270C LL				Acceptance Limits	
Prep Method: 3550B				Date Analyzed: 09/11/2009 0453	
N-Nitrosodimethylamine				Date Prepared: 09/09/2009 1112	
Surrogate				ug/Kg 1.2	
2,4,6-Tribromophenol	82	%		5.3	1.0
2-Fluorobiphenyl	65	%		30 - 130	
2-Fluorophenol	61	%		30 - 130	
Nitrobenzene-d5	63	%		30 - 130	
Phenol-d5	71	%		30 - 130	
Terphenyl-d14	73	%		30 - 130	
Method: 8315A				Date Analyzed: 09/03/2009 1440	
Prep Method: 8315_S_Prep				Date Prepared: 09/01/2009 0758	
Formaldehyde				ug/Kg 82	110
Acetaldehyde				ug/Kg 30	210
Method: LC65				Date Analyzed: 09/02/2009 0910	
Prep Method: LC65				Date Prepared: 09/01/2009 0752	

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

**Client Sample ID:** OC-SB-411-4.7/6.7-XXX  
**Lab Sample ID:** 360-24327-14

Date Sampled: 08/27/2009 1035  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	ND	ug/Kg	10	34	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	67	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
Nitrobenzene-d5	61	%		30 - 130	
Phenol-d5	69	%		30 - 130	
Terphenyl-d14	57	%		30 - 130	
Cas Number RT					
Tentatively Identified Compounds					
1-Heneicosyl formate	58	T J N	ug/Kg	77899-3-7	13.48
1-Docosene	170	T J N	ug/Kg	1599-67-3	14.12
1,4-Dimethyl-8-isopropylidenetricyclo[5.	120	T J N	ug/Kg	1000140-7-7	16.20
Acceptance Limits					
<b>Method:</b> 8270C LL				Date Analyzed:	09/11/2009 0324
<b>Prep Method:</b> 3550B				Date Prepared:	09/09/2009 1112
N-Nitrosodimethylamine	ND	ug/Kg	1.2		5.3
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	78	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
2-Fluorophenol	64	%		30 - 130	
Nitrobenzene-d5	68	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	71	%		30 - 130	
Acceptance Limits					
<b>Method:</b> 8315A				Date Analyzed:	09/03/2009 1451
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/01/2009 0758
Formaldehyde	260	ug/Kg	79		100
Acetaldehyde	37	ug/Kg	29		200
Acceptance Limits					
<b>Method:</b> LC65				Date Analyzed:	09/02/2009 0923
<b>Prep Method:</b> LC65				Date Prepared:	09/01/2009 0752
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18		100
Acceptance Limits					
<b>Method:</b> 6010B				Date Analyzed:	08/31/2009 1505
<b>Prep Method:</b> 3050B				Date Prepared:	08/31/2009 0817
Aluminum	4200	mg/Kg	0.75		2.9

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-SB-418-0.0/1.0-XXX  
 Lab Sample ID: 360-24327-15

Date Sampled: 08/27/2009 0825  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	15	J	ug/Kg	11	43
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	48	ug/Kg	11	36	1.0
Acceptance Limits					
Surrogate		%		30 - 130	
2,4,6-Tribromophenol	77	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
2-Fluorophenol	79	%		30 - 130	
Nitrobenzene-d5	70	%		30 - 130	
Phenol-d5	78	%		30 - 130	
Terphenyl-d14	69	%		30 - 130	
Tentatively Identified Compounds					
Cyclotetacosane	49	T J N	ug/Kg	297-3-0	14.12
p,p"-Diocetyl diphenylamine	200	T J N	ug/Kg	26603-23-6	14.96
Method: 8315A					
Prep Method: 8315_S_Prep			Date Analyzed:	09/03/2009 1503	
Formaldehyde	350		Date Prepared:	09/01/2009 0758	
Acetaldehyde	24	W/JB	ug/Kg	83	110
ug/Kg	31			210	1.0
Method: 6010B					
Prep Method: 3050B			Date Analyzed:	08/31/2009 1508	
Aluminum	8100		Date Prepared:	08/31/2009 0817	
Antimony	ND	mg/Kg	0.77	3.0	1.0
Arsenic	11	mg/Kg	0.21	0.59	1.0
Barium	20	mg/Kg	0.11	1.2	1.0
Beryllium	0.36	mg/Kg	0.077	0.59	1.0
Cadmium	0.26	mg/Kg	0.030	0.24	1.0
Calcium	1400	B	mg/Kg	0.0083	0.24
Chromium	59		mg/Kg	3.0	1.0
Cobalt	4.4		mg/Kg	0.079	0.59
Copper	7.7	B	mg/Kg	0.077	1.2
Iron	12000		mg/Kg	0.94	5.9
Lead	6.4		mg/Kg	0.068	0.59
Magnesium	3100	B	mg/Kg	0.59	1.0
Manganese	120		mg/Kg	0.079	1.2
Nickel	12		mg/Kg	0.077	1.0
Potassium	1300		mg/Kg	37	240
Selenium	ND		mg/Kg	0.28	0.59
Silver	0.61		mg/Kg	0.060	1.0

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

**Client Sample ID:** OC-SB-418-8/10-XXX  
**Lab Sample ID:** 360-24327-17

Date Sampled: 08/27/2009 0835  
 Date Received: 08/27/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	70	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	70	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Benzothiazole, 2-(methylthio)-	30	T J N	ug/Kg	615-22-5	10.10
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	19	T J N	ug/Kg	3910-35-8	10.57
2,4-Diphenyl-4-methyl-2(E)-pentene	14	T J N	ug/Kg	22768-22-5	11.07
Cyclic octaatomic sulfur	21	T J N	ug/Kg	10544-50-0	12.12
<b>Method: 8315A</b>				Date Analyzed:	09/03/2009 1527
<b>Prep Method: 8315_S_Prep</b>				Date Prepared:	09/01/2009 0802
Formaldehyde	400		ug/Kg	86	110
Acetaldehyde	35	✓	ug/Kg	32	220
<b>Method: 6010B</b>				Date Analyzed:	08/31/2009 1516
<b>Prep Method: 3050B</b>				Date Prepared:	08/31/2009 0817
Aluminum	9800		mg/Kg	0.86	3.3
Antimony	ND		mg/Kg	0.24	0.66
Arsenic	16		mg/Kg	0.12	1.3
Barium	39		mg/Kg	0.086	0.66
Beryllium	0.43		mg/Kg	0.033	0.27
Cadmium	0.29		mg/Kg	0.0093	0.27
Calcium	2200	B	mg/Kg	3.3	13
Chromium	14		mg/Kg	0.088	0.66
Cobalt	7.5		mg/Kg	0.086	0.66
Copper	16	B	mg/Kg	0.086	1.3
Iron	15000	B	mg/Kg	1.1	6.6
Lead	3.9		mg/Kg	0.076	0.66
Magnesium	2500	B	mg/Kg	0.66	13
Manganese	110		mg/Kg	0.089	1.3
Nickel	13		mg/Kg	0.086	1.3
Potassium	2000		mg/Kg	41	270

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Job Number: 360-24327-1  
 Sdg Number: OCRI-07

Client Sample ID: OC-EBK-005  
 Lab Sample ID: 360-24327-19

Date Sampled: 08/27/2009 0800  
 Date Received: 08/27/2009 1710  
 Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
<b>Surrogate</b>						
2,4,6-Tribromophenol	75		%		15 - 110	
2-Fluorobiphenyl	70		%		30 - 130	
2-Fluorophenol	21		%		15 - 110	
Nitrobenzene-d5	74		%		30 - 130	
Phenol-d5	11	X	%		15 - 110	
Terphenyl-d14	79		%		30 - 130	
2,4,6-Tribromophenol	75		%		15 - 110	
2-Fluorobiphenyl	70		%		30 - 130	
2-Fluorophenol	21		%		15 - 110	
Nitrobenzene-d5	74		%		30 - 130	
Phenol-d5	11	X	%		15 - 110	
Terphenyl-d14	79		%		30 - 130	
<b>Tentatively Identified Compounds</b>						
Tetrachloroethylene	3.2	T J N	ug/L	127-18-4	6.77	1.0
Unknown	3.1	T J	ug/L		11.03	1.0
Homomenthyl salicylate	1.1	T J N	ug/L	52253-93-7	12.70	1.0
Homomenthyl salicylate	9.3	T J N	ug/L	52253-93-7	12.78	1.0
Oxybenzone	6.7	T J N	ug/L	131-57-7	13.53	1.0
Pyridine	0.20	J *	ug/L	110-86-1	6.06	1.0
<b>Method:</b> 8315A				Date Analyzed:	08/29/2009 1656	
<b>Prep Method:</b> 8315_W_Prep				Date Prepared:	08/28/2009 1448	
Formaldehyde	8.1	J B	ug/L	5.0	50	1.0
Acetaldehyde	ND		ug/L	10	100	1.0
<b>Method:</b> LC65				Date Analyzed:	09/03/2009 1730	
<b>Prep Method:</b> LC65				Date Prepared:	09/02/2009 1038	
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10	1.0
<b>Method:</b> 6010B				Date Analyzed:	08/28/2009 1226	
<b>Prep Method:</b> 3010A				Date Prepared:	08/28/2009 0719	
Aluminum	ND		ug/L	39	100	1.0
Antimony	ND		ug/L	2.9	6.0	1.0
Barium	ND		ug/L	2.0	10	1.0
Arsenic	ND		ug/L	2.3	10	1.0
Beryllium	ND		ug/L	0.20	1.0	1.0
Cadmium	ND		ug/L	0.20	1.0	1.0
Calcium	130	J	ug/L	59	400	1.0
Chromium	ND		ug/L	1.3	5.0	1.0
Cobalt	ND		ug/L	2.0	10	1.0
Copper	21		ug/L	1.7	10	1.0

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site  
Project #: 6107100016  
Date: 3/26/10

Method: Formaldehyde 8315  
Laboratory and SDG: TAL  
Reviewer: C Ricardi

24343

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

Acetaldehyde low MSD

No other issues

## 2. Holding Time and Sample Preservation/Collection

Collected 8/21 Prep 9/2 6 days  
8/28 5 days

## 3. QC Blanks

MBR-ND

## 4. Laboratory Control Sample Review (80-120%)

within limits

## 5. Field Duplicate Precision (30/50)

SB-451 2.5/4.5

## 6. Lab Duplicate Precision (20/35)

NA

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24343-10 SB451 2.5/4.5  
-9 dup 5/4.5

Form - 43-48%  
Act - 25-30%

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-444-0.0/1.0-XXX  
**Lab Sample ID:** 360-24343-1

Date Sampled: 08/27/2009 1320  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	100	340	10
N-Nitrosodiphenylamine	ND	ug/Kg	100	340	10
Pentachlorophenol	ND	ug/Kg	100	340	10
Phenanthrene	ND	ug/Kg	100	410	10
Phenol	ND	ug/Kg	100	340	10
Pyrene	ND	ug/Kg	100	340	10

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	82	%	30 - 130
2-Fluorophenol	85	%	30 - 130
2-Fluorobiphenyl	74	%	30 - 130
Nitrobenzene-d5	73	%	30 - 130
Phenol-d5	81	%	30 - 130
Terphenyl-d14	81	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	490	T J N	3910-35-8	10.57
Heneicosane	490	T J N	629-94-7	13.79
Heptadecane, 9-octyl-	580	T J N	7225-64-1	14.11
p,p"-Diocetyl diphenylamine	42000	T J N	26603-23-6	15.01
1,1"-Biphenyl, 2,3",4,5"-tetrachloro-4"-	1800	T J N	74298-93-4	15.18
Unknown	280	T J	ug/Kg	15.36

<b>Method:</b> 8270C LL		Date Analyzed:	09/11/2009 0622
<b>Prep Method:</b> 3550B		Date Prepared:	09/09/2009 1112
N-Nitrosodimethylamine	ND	ug/Kg	24

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	79	%	30 - 130
2-Fluorobiphenyl	74	%	30 - 130
2-Fluorophenol	61	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130
Phenol-d5	71	%	30 - 130
Terphenyl-d14	61	%	30 - 130

<b>Method:</b> 8315A		Date Analyzed:	09/02/2009 1655
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	09/02/2009 0749
Formaldehyde	130	ug/Kg	80
Acetaldehyde	33	J	ug/Kg

<b>Method:</b> LC65		Date Analyzed:	09/03/2009 1822
<b>Prep Method:</b> LC65		Date Prepared:	09/02/2009 1548
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18

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Job Number: 360-24343-1  
Sdg Number: OCRI-08

Client Sample ID: OC-SB-444-12/14-XXX  
Lab Sample ID: 360-24343-2

Date Sampled: 08/27/2009 1400  
Date Received: 08/28/2009 1710  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate	Acceptance Limits				
Toluene-d8 (Surr)	101	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Unknown	2.6	T J	ug/Kg	10.65	1.0
Unknown	13	T J	ug/Kg	4.41	1.0
Method: 8315A			Date Analyzed:	09/02/2009 1707	
Prep Method: 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	250		ug/Kg	84	1.0
Acetaldehyde	36	J	ug/Kg	31	210

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-444-5.0/7.0-XXX  
**Lab Sample ID:** 360-24343-3

Date Sampled: 08/27/2009 1330  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthenrene	ND	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	64	%		30 - 130	
2-Fluorophenol	70	%		30 - 130	
2-Fluorobiphenyl	54	%		30 - 130	
Nitrobenzene-d5	74	%		30 - 130	
Phenol-d5	69	%		30 - 130	
Terphenyl-d14	60	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
1,1"-Biphenyl, 2-fluoro-	27	T J N	321-60-8	8.82	1.0
Benzothiazole, 2-(methylthio)-	23	T J N	615-22-5	10.10	1.0
Unknown	20	T J	ug/Kg	10.75	1.0
Octadecane, 1-chloro-	16	T J N	3386-33-2	12.06	1.0
Cyclic octaatomic sulfur	64	T J N	10544-50-0	12.13	1.0
p,p"-Diocylidiphenylamine	96	T J N	26603-23-6	14.95	1.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/11/2009 0354	
<b>Prep Method:</b> 3550B			Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.6	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	67	%	30 - 130		
2-Fluorobiphenyl	57	%	30 - 130		
2-Fluorophenol	57	%	30 - 130		
Nitrobenzene-d5	56	%	30 - 130		
Phenol-d5	63	%	30 - 130		
Terphenyl-d14	61	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/02/2009 1718	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	110	J	ug/Kg	87	1.0
Acetaldehyde	37	J	ug/Kg	33	220
<b>Method:</b> LC65			Date Analyzed:	09/03/2009 1847	
<b>Prep Method:</b> LC65			Date Prepared:	09/02/2009 1548	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-449-0.0/1.0-XXX  
**Lab Sample ID:** 360-24343-4

Date Sampled: 08/27/2009 1515  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	ND	ug/Kg	11	35	1.0

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	69	%	30 - 130
2-Fluorophenol	70	%	30 - 130
2-Fluorobiphenyl	59	%	30 - 130
Nitrobenzene-d5	61	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	60	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1-Octadecene	9.9	T J N	112-88-9	12.82
Isoheptadecanol	7.3	T J N	57289-7-3	13.82
Cyclotetacosane	110	T J N	297-3-0	14.12
Squalene	270	T J N	7683-64-9	14.47
Cyclotetacosane	340	T J N	297-3-0	14.77
D-Friedoolean-14-ene, 3-methoxy-, (3.bet)	380	T J N	14021-23-9	15.87
Unknown	110	T J	ug/Kg	16.03
Taraxasterol	180	T J N	1059-14-9	16.42

<b>Method:</b> 8270C LL		Date Analyzed:	09/11/2009 0423
<b>Prep Method:</b> 3550B		Date Prepared:	09/09/2009 1112
N-Nitrosodimethylamine	ND	ug/Kg	1.3

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorobiphenyl	63	%	30 - 130
2-Fluorophenol	61	%	30 - 130
Nitrobenzene-d5	60	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	60	%	30 - 130

<b>Method:</b> 8315A		Date Analyzed:	09/02/2009 1730
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	09/02/2009 0749
Formaldehyde	110	ug/Kg	83
Acetaldehyde	32	J	ug/Kg

<b>Method:</b> LC65		Date Analyzed:	09/03/2009 1900
<b>Prep Method:</b> LC65		Date Prepared:	09/02/2009 1548

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-451-0.0/1.0-XXX  
**Lab Sample ID:** 360-24343-7

Date Sampled: 08/28/2009 1120  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 97

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	100	340	10
N-Nitrosodiphenylamine	ND	ug/Kg	100	340	10
Pentachlorophenol	ND	ug/Kg	100	340	10
Phenanthrene	1800	ug/Kg	100	410	10
Phenol	ND	ug/Kg	100	340	10
Pyrene	2800	ug/Kg	100	340	10
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	74	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
2-Fluorobiphenyl	70	%		30 - 130	
Nitrobenzene-d5	66	%		30 - 130	
Phenol-d5	71	%		30 - 130	
Terphenyl-d14	74	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
11H-Benzo[a]fluorene	180	T J N	ug/Kg	238-84-6	12.65
Octadecane	660	T J N	ug/Kg	593-45-3	14.72
Benz[ <i>j</i> ]fluoranthene	840	T J N	ug/Kg	205-82-3	14.75
p,p"-Diocylidiphenylamine	2800	T J N	ug/Kg	26603-23-6	14.95
<b>Method:</b> 8270C LL			Date Analyzed:	09/11/2009 0752	
<b>Prep Method:</b> 3550B			Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND		ug/Kg	1.2	5.1
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	82	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
Nitrobenzene-d5	70	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	98	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/02/2009 1742	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	310	J	ug/Kg	79	100
Acetaldehyde	46	J	ug/Kg	29	200
<b>Method:</b> LC65			Date Analyzed:	09/03/2009 1913	
<b>Prep Method:</b> LC65			Date Prepared:	09/02/2009 1548	
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	18	100
<b>Method:</b> 6010B			Date Analyzed:	09/02/2009 1229	
<b>Prep Method:</b> 3050B			Date Prepared:	09/02/2009 0740	

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Job Number: 360-24343-1  
Sdg Number: OCRI-08

Client Sample ID: OC-SB-451-18/20-XXX  
Lab Sample ID: 360-24343-8

Date Sampled: 08/28/2009 1250  
Date Received: 08/28/2009 1710  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/02/2009 1754	
Prep Method: 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	140	ug/Kg	85	110	1.0
Acetaldehyde	37	J	32	220	1.0

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-451-2.5/4.5-DUP  
**Lab Sample ID:** 360-24343-9

Date Sampled: 08/28/2009 1140  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	11	J	ug/Kg	11	42
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	23	J	ug/Kg	11	35
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	55	%		30 - 130	
2-Fluorophenol	61	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
Nitrobenzene-d5	55	%		30 - 130	
Phenol-d5	61	%		30 - 130	
Terphenyl-d14	72	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Unknown	6.1	T J	ug/Kg		22.17
Unknown	110	T J	ug/Kg		16.52
<b>Method:</b> 8270C LL			Date Analyzed:	09/11/2009 0652	
<b>Prep Method:</b> 3550B			Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND	ug/Kg	12	53	10
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
Nitrobenzene-d5	67	%		30 - 130	
Phenol-d5	70	%		30 - 130	
Terphenyl-d14	65	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/02/2009 1806	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	170	J	ug/Kg	81	100
Acetaldehyde	31	J	ug/Kg	30	210
<b>Method:</b> LC65			Date Analyzed:	09/03/2009 1952	
<b>Prep Method:</b> LC65			Date Prepared:	09/02/2009 1548	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/02/2009 1232	
<b>Prep Method:</b> 3050B			Date Prepared:	09/02/2009 0740	
Aluminum	970	mg/Kg	0.74	2.9	1.0
Antimony	ND	mg/Kg	0.21	0.57	1.0

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Job Number: 360-24343-1  
 Sdg Number: OCRI-08

**Client Sample ID:** OC-SB-451-2.5/4.5-XXX  
**Lab Sample ID:** 360-24343-10

Date Sampled: 08/28/2009 1140  
 Date Received: 08/28/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	34	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	34	1.0
Pentachlorophenol	ND	ug/Kg	10	34	1.0
Phenanthrene	ND	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	27 J	ug/Kg	10	34	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	62	%		30 - 130	
2-Fluorophenol	65	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
Nitrobenzene-d5	60	%		30 - 130	
Phenol-d5	63	%		30 - 130	
Terphenyl-d14	76	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Unknown	1.7	T J	ug/Kg	20.00	1.0
Z-12-Pentacosene	210	T J N	ug/Kg	1000131-9-4	16.52
<b>Method:</b> 8270C LL			Date Analyzed:	09/12/2009 2021	
<b>Prep Method:</b> 3550B			Date Prepared:	09/10/2009 1211	
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	74	%		30 - 130	
2-Fluorobiphenyl	60	%		30 - 130	
2-Fluorophenol	57	%		30 - 130	
Nitrobenzene-d5	60	%		30 - 130	
Phenol-d5	64	%		30 - 130	
Terphenyl-d14	74	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/02/2009 1817	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	140 J	ug/Kg	82	110	1.0
Acetaldehyde	ND UJ	ug/Kg	30	210	1.0
<b>Method:</b> LC65			Date Analyzed:	09/03/2009 2004	
<b>Prep Method:</b> LC65			Date Prepared:	09/02/2009 1548	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/02/2009 1158	
<b>Prep Method:</b> 3050B			Date Prepared:	09/02/2009 0740	
Aluminum	880	mg/Kg	0.77	3.0	1.0
Antimony	0.89	mg/Kg	0.21	0.59	1.0

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/26/10

Reviewer: C Ricardi

24365

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

Water MBK detection

No other issues

## 2. Holding Time and Sample Preservation/Collection

Collect 8/31 Prep 9/2

## 3. QC Blanks

water MBK - 5.02 J Form

56.1 MBK - ND

EBK-006 ND

## 4. Laboratory Control Sample Review (80-120%)

Within Limits

## 5. Field Duplicate Precision (30/50)

24345-3 SB 442 8.0/10  
-4

Acet 45/34  
Form 600/170 RPD=112

## 6. Lab Duplicate Precision (20/35)

N/A

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24365-4 SB 442 8.0/10

within limits

## 8. Surrogate Recovery (if applicable)

N/A

## 9. Internal Standard Recovery (if applicable)

N/A

Mr. Steven Morrow  
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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-442-0.0/1.0-XXX  
**Lab Sample ID:** 360-24365-1

Date Sampled: 08/31/2009 1200  
 Date Received: 08/31/2009 1745  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Pentachlorophenol	ND	ug/Kg	110	350	10
Phenanthrene	ND	ug/Kg	110	420	10
Phenol	ND	ug/Kg	110	350	10
Pyrene	ND	ug/Kg	110	350	10
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	80	%		30 - 130	
2-Fluorophenol	82	%		30 - 130	
2-Fluorobiphenyl	76	%		30 - 130	
Nitrobenzene-d5	75	%		30 - 130	
Phenol-d5	66	%		30 - 130	
Terphenyl-d14	87	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
1-Pentene, 2,4,4-trimethyl-	450	T J N	107-39-1	4.76	10
Unknown	160	T J	ug/Kg	9.87	10
Unknown	530	T J	ug/Kg	9.92	10
Unknown	200	T J	ug/Kg	10.29	10
Unknown	230	T J	ug/Kg	10.53	10
Unknown	280	T J	ug/Kg	10.63	10
Butylated Hydroxytoluene	340	T J N	128-37-0	10.68	10
Unknown	6300	T J	ug/Kg	18.97	10
N-Nitrosodiphenylamine	510		ug/Kg	350	10
<b>Method:</b> 8270C LL			Date Analyzed:	09/24/2009 0905	
<b>Prep Method:</b> 3546			Date Prepared:	09/09/2009 0958	
Diphenylamine	260	J	ug/Kg	110	350
N-Nitrosodiphenylamine	ND		ug/Kg	110	350
<b>Method:</b> 8270C LL			Date Analyzed:	09/11/2009 0553	
<b>Prep Method:</b> 3550B			Date Prepared:	09/09/2009 1112	
N-Nitrosodimethylamine	ND		ug/Kg	25	110
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	0	X	%	30 - 130	
2-Fluorobiphenyl	64		%	30 - 130	
2-Fluorophenol	52		%	30 - 130	
Nitrobenzene-d5	62		%	30 - 130	
Phenol-d5	61		%	30 - 130	
Terphenyl-d14	0	X	%	30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/02/2009 1905	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/02/2009 0749	
Formaldehyde	280		ug/Kg	83	110

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-442-0.0/1.0-XXX  
**Lab Sample ID:** 360-24365-1

Date Sampled: 08/31/2009 1200  
 Date Received: 08/31/2009 1745  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Acetaldehyde	35 J	ug/Kg	31	210	1.0
<b>Method:</b> LC65		Date Analyzed:	09/03/2009 2043		
<b>Prep Method:</b> LC65		Date Prepared:	09/02/2009 1552		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
<b>Method:</b> 6010B		Date Analyzed:	09/03/2009 1413		
<b>Prep Method:</b> 3050B		Date Prepared:	09/03/2009 0829		
Aluminum	5700	mg/Kg	0.90	3.4	1.0
Antimony	ND	mg/Kg	0.25	0.69	1.0
Arsenic	6.3	mg/Kg	0.13	1.4	1.0
Barium	15	mg/Kg	0.090	0.69	1.0
Beryllium	0.16 J	mg/Kg	0.034	0.28	1.0
Cadmium	0.17 J	mg/Kg	0.0096	0.28	1.0
Calcium	1100 B	mg/Kg	3.4	14	1.0
Chromium	22	mg/Kg	0.092	0.69	1.0
Cobalt	3.2	mg/Kg	0.090	0.69	1.0
Copper	6.8	mg/Kg	0.090	1.4	1.0
Iron	9500 B	mg/Kg	1.1	6.9	1.0
Lead	8.0	mg/Kg	0.079	0.69	1.0
Magnesium	2000 B	mg/Kg	0.69	14	1.0
Manganese	83	mg/Kg	0.092	1.4	1.0
Nickel	13	mg/Kg	0.090	1.4	1.0
Selenium	ND	mg/Kg	0.32	0.69	1.0
Silver	0.11 J	mg/Kg	0.069	0.69	1.0
Sodium	ND	mg/Kg	18	140	1.0
Thallium	ND	mg/Kg	0.10	1.4	1.0
Vanadium	15	mg/Kg	0.090	1.4	1.0
Zinc	19	mg/Kg	0.81	3.4	1.0
Tin	8.0 B ^	mg/Kg	0.44	6.9	1.0
<b>Method:</b> 6010B		Date Analyzed:	09/04/2009 1539		
<b>Prep Method:</b> 3050B		Date Prepared:	09/04/2009 1225		
Potassium	1200	mg/Kg	34	210	1.0
<b>Method:</b> 7471A		Date Analyzed:	09/04/2009 0926		
<b>Prep Method:</b> 7471A		Date Prepared:	09/03/2009 0913		
Mercury	ND	mg/Kg	0.024	0.13	1.0

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Job Number: 360-24365-1  
Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-442-20/22-XXX  
**Lab Sample ID:** 360-24365-2

Date Sampled: 08/31/2009 1320  
Date Received: 08/31/2009 1745  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed: 09/02/2009 1916		
Prep Method: 8315_S_Prep			Date Prepared: 09/02/2009 0749		
Formaldehyde	260	ug/Kg	83	110	1.0
Acetaldehyde	36 J	ug/Kg	31	210	1.0

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-442-8.0/10-DUP  
**Lab Sample ID:** 360-24365-3

Date Sampled: 08/31/2009 1210  
 Date Received: 08/31/2009 1745  
 Client Matrix: Solid  
 Percent Solids: 88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	58	%	30 - 130
2-Fluorophenol	68	%	30 - 130
2-Fluorobiphenyl	65	%	30 - 130
Nitrobenzene-d5	69	%	30 - 130
Phenol-d5	60	%	30 - 130
Terphenyl-d14	87	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Unknown	5400	T J	ug/Kg	6.68
Unknown	12	T J	ug/Kg	7.31
1,2,4-Trithiolane	11	T J N	ug/Kg	289-16-7
Unknown	25	T J	ug/Kg	9.13
1,2,4,6-Tetrathiepane	9.2	T J N	ug/Kg	292-45-5
9-Octadecenamide, (Z)-	38	T J N	ug/Kg	301-2-0
Benzidine	24	J	ug/Kg	92-87-5

<b>Method:</b> 8270C LL	Date Analyzed:	09/12/2009 1317
<b>Prep Method:</b> 3550B	Date Prepared:	09/10/2009 1211
N-Nitrosodimethylamine	ug/Kg	1.3

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	65	%	30 - 130
2-Fluorobiphenyl	50	%	30 - 130
2-Fluorophenol	51	%	30 - 130
Nitrobenzene-d5	50	%	30 - 130
Phenol-d5	57	%	30 - 130
Terphenyl-d14	68	%	30 - 130

<b>Method:</b> 8315A	Date Analyzed:	09/02/2009 1928
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/02/2009 0749
Formaldehyde	600	J
Acetaldehyde	45	J

<b>Method:</b> LC65	Date Analyzed:	09/03/2009 2109
<b>Prep Method:</b> LC65	Date Prepared:	09/02/2009 1552
Phthalic Acid/Phthalic anhydride	ug/Kg	20

OK

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Job Number: 360-24365-1  
Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-442-8.0/10-XXX  
**Lab Sample ID:** 360-24365-4

Date Sampled: 08/31/2009 1210  
Date Received: 08/31/2009 1745  
Client Matrix: Solid  
Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	46	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0

Surrogate  
2,4,6-Tribromophenol  
2-Fluorophenol  
2-Fluorobiphenyl  
Nitrobenzene-d5  
Phenol-d5  
Terphenyl-d14

Tentatively Identified Compounds				Cas Number	RT	
Butylated Hydroxytoluene	12	T J N	ug/Kg	128-37-0	10.48	1.0
Phenol, 4-(1,1,3,3-tetramethylbutyl)-	11	T J N	ug/Kg	140-66-9	10.93	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	16	T J N	ug/Kg	3910-35-8	11.43	1.0
2,4-Diphenyl-4-methyl-2(E)-pentene	11	T J N	ug/Kg	22768-22-5	11.85	1.0
Octadecanoic acid, methyl ester	13	T J N	ug/Kg	112-61-8	12.81	1.0
Docosane	10	T J N	ug/Kg	629-97-0	15.61	1.0
Nonacosane	11	T J N	ug/Kg	630-3-5	16.12	1.0
Erucylamide	19	T J N	ug/Kg	112-84-5	16.61	1.0
Squalene	28	T J N	ug/Kg	7683-64-9	16.77	1.0

Method: 8270C LL

Date Analyzed: 09/12/2009 1347

Prep Method: 3550B

Date Prepared: 09/10/2009 1211

### N-Nitrosodimethylamine

ug/Kg 1.3

5.7

## Surrogate

2,4,6-Tribromophenol	62	%	30 - 130
2-Fluorobiphenyl	49	%	30 - 130
2-Fluorophenol	50	%	30 - 130
Nitrobenzene-d5	49	%	30 - 130
Phenol-d5	55	%	30 - 130
Terphenyl-d14	64	%	30 - 130

Method: 8315A

Date Analyzed: 09/02/2009 1940

Prep Method: 8315\_S\_Prep

Date Prepared: 09/02/2009 0749

### Formaldehyde

170

### Acetaldehyde

J

**Method:** LC65

Date Analyzed: 09/03/2009 2122

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-452-0.0/1.0-XXX  
**Lab Sample ID:** 360-24365-8

Date Sampled: 08/31/2009 1030  
 Date Received: 08/31/2009 1745  
 Client Matrix: Solid  
 Percent Solids: 98

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Pentachlorophenol	45	ug/Kg	10	34	1.0
Phenanthrene	25 J	ug/Kg	10	41	1.0
Phenol	ND	ug/Kg	10	34	1.0
Pyrene	47	ug/Kg	10	34	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	41	%		30 - 130	
2-Fluorophenol	58	%		30 - 130	
2-Fluorobiphenyl	39	%		30 - 130	
Nitrobenzene-d5	48	%		30 - 130	
Phenol-d5	50	%		30 - 130	
Terphenyl-d14	44	%		30 - 130	

Tentatively Identified Compounds			Cas Number	RT
Unknown	3100	T J	ug/Kg	6.17
N-Nitrosodiphenylamine	63		ug/Kg	34
<b>Method: 8270C LL</b>			Date Analyzed:	09/24/2009 1007
<b>Prep Method: 3546</b>			Date Prepared:	09/09/2009 0958
Diphenylamine	48		ug/Kg	34
N-Nitrosodiphenylamine	ND		ug/Kg	34
<b>Method: 8270C LL</b>			Date Analyzed:	09/12/2009 1951
<b>Prep Method: 3550B</b>			Date Prepared:	09/10/2009 1211
N-Nitrosodimethylamine	ND		ug/Kg	5.1
Surrogate			Acceptance Limits	
2,4,6-Tribromophenol	82	%	30 - 130	
2-Fluorobiphenyl	66	%	30 - 130	
2-Fluorophenol	59	%	30 - 130	
Nitrobenzene-d5	68	%	30 - 130	
Phenol-d5	67	%	30 - 130	
Terphenyl-d14	84	%	30 - 130	
<b>Method: 8315A</b>			Date Analyzed:	09/02/2009 2015
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	09/02/2009 0749
Formaldehyde	190	ug/Kg	78	100
Acetaldehyde	ND	ug/Kg	29	200
<b>Method: LC65</b>			Date Analyzed:	09/03/2009 2213
<b>Prep Method: LC65</b>			Date Prepared:	09/02/2009 1554
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100
<b>Method: 6010B</b>			Date Analyzed:	09/03/2009 1431
<b>Prep Method: 3050B</b>			Date Prepared:	09/03/2009 0829

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-452-5.0/7.0-XXX  
**Lab Sample ID:** 360-24365-10

Date Sampled: 08/31/2009 1045  
 Date Received: 08/31/2009 1745  
 Client Matrix: Solid  
 Percent Solids: 83

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0	
Pentachlorophenol	ND	ug/Kg	12	40	1.0	
Phenanthrene	ND	ug/Kg	12	48	1.0	
Phenol	ND	ug/Kg	12	40	1.0	
Pyrene	ND	ug/Kg	12	40	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	55	%		30 - 130		
2-Fluorophenol	67	%		30 - 130		
2-Fluorobiphenyl	55	%		30 - 130		
Nitrobenzene-d5	65	%		30 - 130		
Phenol-d5	66	%		30 - 130		
Terphenyl-d14	56	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Alpha-Terpineol	27	J	ug/Kg	98-55-5	8.94	1.0
Butylated Hydroxytoluene	13	T J N	ug/Kg	128-37-0	10.48	1.0
Phenol, (1,1,3,3-tetramethylbutyl)-	8.7	T J N	ug/Kg	27193-28-8	10.93	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	13	T J N	ug/Kg	3910-35-8	11.43	1.0
2,4-Diphenyl-4-methyl-2(E)-pentene	10	T J N	ug/Kg	22768-22-5	11.85	1.0
1-Naphthalenepropanol, .alpha.-ethenylde	13	T J N	ug/Kg	596-85-0	12.79	1.0
Nonadecane	12	T J N	ug/Kg	629-92-5	15.61	1.0
Eicosane	19	T J N	ug/Kg	112-95-8	16.12	1.0
Octadecane	11	T J N	ug/Kg	593-45-3	16.64	1.0
Squalene	41	T J N	ug/Kg	7683-64-9	16.77	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/12/2009 1517	
<b>Prep Method:</b> 3550B				Date Prepared:	09/10/2009 1211	
N-Nitrosodimethylamine	ND		ug/Kg	1.4	6.0	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	60		%	30 - 130		
2-Fluorobiphenyl	53		%	30 - 130		
2-Fluorophenol	54		%	30 - 130		
Nitrobenzene-d5	53		%	30 - 130		
Phenol-d5	58		%	30 - 130		
Terphenyl-d14	70		%	30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	09/02/2009 2039	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/02/2009 0749	
Formaldehyde	240	J	ug/Kg	92	120	1.0
Acetaldehyde	49	J	ug/Kg	34	240	1.0

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-EBK-006  
**Lab Sample ID:** 360-24365-12

Date Sampled: 08/31/2009 1415  
 Date Received: 08/31/2009 1745  
 Client Matrix: Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
<b>Surrogate</b>						
2,4,6-Tribromophenol	72		%		15 - 110	
2-Fluorobiphenyl	74		%		30 - 130	
2-Fluorophenol	21		%		15 - 110	
Nitrobenzene-d5	80		%		30 - 130	
Phenol-d5	11	X	%		15 - 110	
Terphenyl-d14	82		%		30 - 130	
2,4,6-Tribromophenol	72		%		15 - 110	
2-Fluorobiphenyl	74		%		30 - 130	
2-Fluorophenol	21		%		15 - 110	
Nitrobenzene-d5	80		%		30 - 130	
Phenol-d5	11	X	%		15 - 110	
Terphenyl-d14	82		%		30 - 130	
<b>Tentatively Identified Compounds</b>						
Unknown	1.6	T J	ug/L		12.76	1.0
Octadecane, 2-methyl-	1.6	T J N	ug/L	1560-88-9	15.97	1.0
Hexacosane	1.6	T J N	ug/L	630-1-3	16.51	1.0
Heptacosane	1.8	T J N	ug/L	593-49-7	17.10	1.0
Pyridine	0.20	J *	ug/L	110-86-1	6.01	1.0
<b>Method:</b> 8315A				Date Analyzed:	09/02/2009 1420	
<b>Prep Method:</b> 8315_W_Prep				Date Prepared:	09/02/2009 0840	
Formaldehyde	ND		ug/L	5.0	50	1.0
Acetaldehyde	ND		ug/L	10	100	1.0
<b>Method:</b> LC65				Date Analyzed:	09/03/2009 1717	
<b>Prep Method:</b> LC65				Date Prepared:	09/02/2009 1038	
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10	1.0
<b>Method:</b> 8082				Date Analyzed:	09/04/2009 1254	
<b>Prep Method:</b> 3510C				Date Prepared:	09/03/2009 1440	
PCB-1016	ND		ug/L	0.13	0.28	1.0
PCB-1221	ND		ug/L	0.094	0.28	1.0
PCB-1232	ND		ug/L	0.11	0.28	1.0
PCB-1242	ND		ug/L	0.13	0.28	1.0
PCB-1248	ND		ug/L	0.094	0.28	1.0
PCB-1254	ND		ug/L	0.18	0.28	1.0
PCB-1260	ND		ug/L	0.16	0.28	1.0
PCB-1262	ND		ug/L	0.23	0.28	1.0
PCB-1268	ND		ug/L	0.18	0.28	1.0
Surrogate				Acceptance Limits		

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-458-0.0/1.0-XXX  
**Lab Sample ID:** 360-24365-13

Date Sampled: 08/31/2009 1530  
 Date Received: 09/01/2009 1715  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0	
Pentachlorophenol	ND	ug/Kg	11	36	1.0	
Phenanthrene	12 J	ug/Kg	11	43	1.0	
Phenol	ND	ug/Kg	11	36	1.0	
Pyrene	22 J	ug/Kg	11	36	1.0	
<b>Surrogate</b>						
2,4,6-Tribromophenol	73	%		30 - 130		
2-Fluorophenol	93	%		30 - 130		
2-Fluorobiphenyl	70	%		30 - 130		
Nitrobenzene-d5	83	%		30 - 130		
Phenol-d5	76	%		30 - 130		
Terphenyl-d14	87	%		30 - 130		
<b>Tentatively Identified Compounds</b>						
1-Docosene	2700	T J N	ug/Kg	1599-67-3	15.52	1.0
Benzidine	18	J	ug/Kg	92-87-5	12.53	1.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/12/2009 1548		
<b>Prep Method:</b> 3550B			Date Prepared:	09/10/2009 1211		
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.4	1.0	
<b>Surrogate</b>						
2,4,6-Tribromophenol	68	%		30 - 130		
2-Fluorobiphenyl	54	%		30 - 130		
2-Fluorophenol	47	%		30 - 130		
Nitrobenzene-d5	52	%		30 - 130		
Phenol-d5	56	%		30 - 130		
Terphenyl-d14	71	%		30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1446		
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735		
Formaldehyde	150	ug/Kg	85	110	1.0	
Acetaldehyde	ND	ug/Kg	31	220	1.0	
<b>Method:</b> LC65			Date Analyzed:	09/03/2009 2251		
<b>Prep Method:</b> LC65			Date Prepared:	09/03/2009 0813		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0	
<b>Method:</b> 6010B			Date Analyzed:	09/03/2009 1436		
<b>Prep Method:</b> 3050B			Date Prepared:	09/03/2009 0829		
Aluminum	7200	mg/Kg	0.86	3.3	1.0	
Antimony	ND	mg/Kg	0.24	0.67	1.0	

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Job Number: 360-24365-1  
Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-458-22/24-XXX  
**Lab Sample ID:** 360-24365-14

Date Sampled: 08/31/2009 1630  
Date Received: 09/01/2009 1715  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed: 09/04/2009 1458		
Prep Method: 8315_S_Prep			Date Prepared: 09/04/2009 0735		
Formaldehyde	250	ug/Kg	84	110	1.0
Acetaldehyde	ND	ug/Kg	31	220	1.0

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Job Number: 360-24365-1  
 Sdg Number: OCRI-09

**Client Sample ID:** OC-SB-458-5.0/7.0-XXX  
**Lab Sample ID:** 360-24365-15

Date Sampled: 08/31/2009 1545  
 Date Received: 09/01/2009 1715  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0
Pentachlorophenol	ND	ug/Kg	12	40	1.0
Phenanthrene	ND	ug/Kg	12	48	1.0
Phenol	ND	ug/Kg	12	40	1.0
Pyrene	ND	ug/Kg	12	40	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	54	%	30 - 130
2-Fluorophenol	65	%	30 - 130
2-Fluorobiphenyl	54	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130
Phenol-d5	65	%	30 - 130
Terphenyl-d14	54	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1,6,10-Dodecatrien-3-ol, 3,7,11-trimethyl	10	T J N	7212-44-4	12.46
Eicosane, 10-methyl-	9.4	T J N	54833-23-7	12.70
1-Naphthalenepropanol, .alpha.-ethenylde	340	T J N	596-85-0	12.78
Docosane	9.8	T J N	629-97-0	13.14
Eicosane	22	T J N	112-95-8	13.65
Tetracosane	25	T J N	646-31-1	14.25
Hexadecane, 2,6,10,14-tetramethyl-	21	T J N	638-36-8	14.98
Eicosane	19	T J N	112-95-8	16.12
9-Nonadecene	23	T J N	31035-7-1	16.27
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	65	T J N	111-2-4	16.77

<b>Method:</b> 8270C LL	Date Analyzed:	09/12/2009 1618
<b>Prep Method:</b> 3550B	Date Prepared:	09/10/2009 1211
N-Nitrosodimethylamine	ug/Kg	1.4

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	67	%	30 - 130
2-Fluorobiphenyl	53	%	30 - 130
2-Fluorophenol	55	%	30 - 130
Nitrobenzene-d5	54	%	30 - 130
Phenol-d5	60	%	30 - 130
Terphenyl-d14	64	%	30 - 130

<b>Method:</b> 8315A	Date Analyzed:	09/04/2009 1510
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/04/2009 0735
Formaldehyde	ug/Kg	93
Acetaldehyde	ug/Kg	35

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site  
Project #: 6107100016  
Date: 3/26/10

Method: Formaldehyde 8315  
Laboratory and SDG: TAL  
Reviewer: C Ricardi

24417

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

No Issues

## 2. Holding Time and Sample Preservation/Collection

Collect 9/1  
9/2 Prep 9/4

## 3. QC Blanks

Soil MBK - ND

## 4. Laboratory Control Sample Review (80-120%)

Within Limits

## 5. Field Duplicate Precision (30/50)

24417-9 SB-465 8.0%

Act - 220 u/220 u  
Form - 220/220

## 6. Lab Duplicate Precision (20/35)

NA

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24417-10 SB-465 8/10 Within limits

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24417-1  
Sdg Number: OCRI-10

Client Sample ID: OC-SB-464-26/28-XXX  
Lab Sample ID: 360-24417-5

Date Sampled: 09/01/2009 1650  
Date Received: 09/02/2009 1710  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/04/2009 1533	
Prep Method: 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	500	ug/Kg	84	110	1.0
Acetaldehyde	ND	ug/Kg	31	220	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-464-5.0/7.0-XXX  
**Lab Sample ID:** 360-24417-6

Date Sampled: 09/01/2009 1650  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0	
Pentachlorophenol	ND	ug/Kg	11	37	1.0	
Phenanthrene	ND	ug/Kg	11	45	1.0	
Phenol	ND	ug/Kg	11	37	1.0	
Pyrene	ND	ug/Kg	11	37	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	55	%		30 - 130		
2-Fluorophenol	63	%		30 - 130		
2-Fluorobiphenyl	54	%		30 - 130		
Nitrobenzene-d5	61	%		30 - 130		
Phenol-d5	62	%		30 - 130		
Terphenyl-d14	54	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Alpha-Terpineol	26	J	ug/Kg	98-55-5	8.94	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	31	T J N	ug/Kg	3910-35-8	11.43	1.0
Octadecanoic acid, methyl ester	17	T J N	ug/Kg	112-61-8	12.81	1.0
1-Eicosene	160	T J N	ug/Kg	3452-7-1	15.11	1.0
Heptacosane	36	T J N	ug/Kg	593-49-7	16.12	1.0
1-Docosene	240	T J N	ug/Kg	1599-67-3	16.22	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/12/2009 1719	
<b>Prep Method:</b> 3550B				Date Prepared:	09/10/2009 1211	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.7	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	76	%		30 - 130		
2-Fluorobiphenyl	58	%		30 - 130		
2-Fluorophenol	53	%		30 - 130		
Nitrobenzene-d5	55	%		30 - 130		
Phenol-d5	61	%		30 - 130		
Terphenyl-d14	75	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	09/04/2009 1545	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/04/2009 0735	
Formaldehyde	280	ug/Kg	88	110	1.0	
Acetaldehyde	ND	ug/Kg	33	220	1.0	
<b>Method:</b> LC65				Date Analyzed:	09/09/2009 1602	
<b>Prep Method:</b> LC65				Date Prepared:	09/08/2009 0740	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	110	1.0	

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-465-0.0/1.0-XXX  
**Lab Sample ID:** 360-24417-7

Date Sampled: 09/02/2009 0735  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	10	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	10	35	1.0
Pentachlorophenol	ND	ug/Kg	10	35	1.0
Phenanthrene	ND	ug/Kg	10	42	1.0
Phenol	ND	ug/Kg	10	35	1.0
Pyrene	ND	ug/Kg	10	35	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	64	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
2-Fluorobiphenyl	63	%		30 - 130	
Nitrobenzene-d5	61	%		30 - 130	
Phenol-d5	71	%		30 - 130	
Terphenyl-d14	70	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
1-Eicosanol	140	T J N	629-96-9	14.00	1.0
p,p"-Diocetyl diphenylamine	140	T J N	26603-23-6	14.82	1.0
Benzidine	19	J	92-87-5	12.16	1.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/12/2009 1749	
<b>Prep Method:</b> 3550B			Date Prepared:	09/10/2009 1211	
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.3	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	85	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
2-Fluorophenol	69	%		30 - 130	
Nitrobenzene-d5	69	%		30 - 130	
Phenol-d5	76	%		30 - 130	
Terphenyl-d14	78	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1557	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	230	ug/Kg	80	100	1.0
Acetaldehyde	ND	ug/Kg	30	210	1.0
<b>Method:</b> LC65			Date Analyzed:	09/09/2009 1615	
<b>Prep Method:</b> LC65			Date Prepared:	09/08/2009 0740	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	99	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/04/2009 1425	
<b>Prep Method:</b> 3050B			Date Prepared:	09/04/2009 0857	
Aluminum	1500	mg/Kg	0.80	3.1	1.0

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Job Number: 360-24417-1  
Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-465-16/18-XXX  
**Lab Sample ID:** 360-24417-8

Date Sampled: 09/02/2009 0825  
Date Received: 09/02/2009 1710  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate	Acceptance Limits				
Toluene-d8 (Surrogate)	101	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Unknown	6.4	T J	ug/Kg	3.63	1.0
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1609	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	250	ug/Kg	85	110	1.0
Acetaldehyde	ND	ug/Kg	31	220	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-465-8.0/10-DUP  
**Lab Sample ID:** 360-24417-9

Date Sampled: 09/02/2009 0745  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	68	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
2-Fluorobiphenyl	66	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	74	%		30 - 130	
Terphenyl-d14	79	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Limonene	8.1	T J N	ug/Kg	138-86-3	6.46
Cyclic octaatomic sulfur	32	T J N	ug/Kg	10544-50-0	12.00
Squalene	100	T J N	ug/Kg	7683-64-9	14.35
<b>Method:</b> 8270C LL			Date Analyzed:	09/12/2009 1850	
<b>Prep Method:</b> 3550B			Date Prepared:	09/10/2009 1211	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.6	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	76	%	30 - 130		
2-Fluorobiphenyl	62	%	30 - 130		
2-Fluorophenol	62	%	30 - 130		
Nitrobenzene-d5	62	%	30 - 130		
Phenol-d5	68	%	30 - 130		
Terphenyl-d14	80	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1621	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	220	ug/Kg	86	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0
<b>Method:</b> LC65			Date Analyzed:	09/09/2009 1641	
<b>Prep Method:</b> LC65			Date Prepared:	09/08/2009 0740	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/04/2009 1428	
<b>Prep Method:</b> 3050B			Date Prepared:	09/04/2009 0857	
Aluminum	3600	mg/Kg	0.86	3.3	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-465-8.0/10-XXX  
**Lab Sample ID:** 360-24417-10

Date Sampled: 09/02/2009 0745  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	66	%		30 - 130	
2-Fluorophenol	75	%		30 - 130	
2-Fluorobiphenyl	69	%		30 - 130	
Nitrobenzene-d5	66	%		30 - 130	
Phenol-d5	79	%		30 - 130	
Terphenyl-d14	75	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Benzothiazole, 2-(methylthio)-	8.2	T J N	615-22-5	9.99	1.0
Squalene	59	T J N	7683-64-9	14.35	1.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/24/2009 0045	
<b>Prep Method:</b> 3550B			Date Prepared:	09/15/2009 1206	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.6	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	69	%	30 - 130		
2-Fluorobiphenyl	61	%	30 - 130		
2-Fluorophenol	62	%	30 - 130		
Nitrobenzene-d5	58	%	30 - 130		
Phenol-d5	69	%	30 - 130		
Terphenyl-d14	75	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1632	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	270	ug/Kg	88	110	1.0
Acetaldehyde	ND	ug/Kg	33	220	1.0
<b>Method:</b> LC65			Date Analyzed:	09/09/2009 1654	
<b>Prep Method:</b> LC65			Date Prepared:	09/08/2009 0740	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/04/2009 1318	
<b>Prep Method:</b> 3050B			Date Prepared:	09/04/2009 0857	
Aluminum	3800	mg/Kg	0.96	3.7	1.0
Antimony	0.46	J	0.27	0.74	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-468-0.0/1.0-XXX  
**Lab Sample ID:** 360-24417-11

Date Sampled: 09/02/2009 1005  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	09/04/2009 0735			
Formaldehyde	290	ug/Kg	88	110	1.0	
Acetaldehyde	ND	ug/Kg	33	230	1.0	
<b>Method:</b> LC65		Date Analyzed:	09/09/2009 1732			
<b>Prep Method:</b> LC65		Date Prepared:	09/08/2009 0740			
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0	
<b>Method:</b> 6010B		Date Analyzed:	09/04/2009 1431			
<b>Prep Method:</b> 3050B		Date Prepared:	09/04/2009 0857			
Aluminum	8700	mg/Kg	0.81	3.1	1.0	
Antimony	ND	mg/Kg	0.23	0.62	1.0	
Arsenic	5.1	mg/Kg	0.11	1.2	1.0	
Barium	10	B	mg/Kg	0.081	0.62	1.0
Beryllium	0.24	J	mg/Kg	0.031	0.25	1.0
Cadmium	0.094	J	mg/Kg	0.0087	0.25	1.0
Calcium	3100	B	mg/Kg	3.1	12	1.0
Chromium	11		mg/Kg	0.083	0.62	1.0
Cobalt	1.8		mg/Kg	0.081	0.62	1.0
Copper	2.7		mg/Kg	0.081	1.2	1.0
Iron	5500	B	mg/Kg	0.99	6.2	1.0
Lead	3.9		mg/Kg	0.071	0.62	1.0
Magnesium	980	B	mg/Kg	0.62	12	1.0
Manganese	48		mg/Kg	0.083	1.2	1.0
Nickel	5.2		mg/Kg	0.081	1.2	1.0
Potassium	510		mg/Kg	39	250	1.0
Selenium	ND		mg/Kg	0.29	0.62	1.0
Silver	ND		mg/Kg	0.063	0.62	1.0
Sodium	53	J	mg/Kg	16	120	1.0
Thallium	ND		mg/Kg	0.090	1.2	1.0
Vanadium	8.9		mg/Kg	0.081	1.2	1.0
Zinc	12		mg/Kg	0.73	3.1	1.0
Tin	3.7	J B ^	mg/Kg	0.40	6.2	1.0
<b>Method:</b> 7471A		Date Analyzed:	09/09/2009 1402			
<b>Prep Method:</b> 7471A		Date Prepared:	09/08/2009 0829			
Mercury	ND	mg/Kg	0.031	0.17	1.0	

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Job Number: 360-24417-1  
Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-468-31/33-XXX  
**Lab Sample ID:** 360-24417-12

Date Sampled: 09/02/2009 1100  
Date Received: 09/02/2009 1710  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8315A			Date Analyzed:	09/04/2009 1732	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	510	ug/Kg	84	110	1.0
Acetaldehyde	ND	ug/Kg	31	220	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-468-8.0/10-XXX  
**Lab Sample ID:** 360-24417-13

Date Sampled: 09/02/2009 1010  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0
Surrogate					
2,4,6-Tribromophenol	60	%		30 - 130	
2-Fluorophenol	66	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	68	%		30 - 130	
Terphenyl-d14	73	%		30 - 130	
Tentatively Identified Compounds					
Cyclic octaatomic sulfur	170	T J N	ug/Kg	10544-50-0	12.01
Squalene	80	T J N	ug/Kg	7683-64-9	14.35
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.7	1.0
Surrogate					
2,4,6-Tribromophenol	69	%		30 - 130	
2-Fluorobiphenyl	60	%		30 - 130	
2-Fluorophenol	58	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	66	%		30 - 130	
Terphenyl-d14	78	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	280	ug/Kg	89	110	1.0
Acetaldehyde	ND	ug/Kg	33	230	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
<b>Method: 6010B</b>					
<b>Prep Method: 3050B</b>					
Aluminum	3800	mg/Kg	0.76	2.9	1.0
Antimony	ND	mg/Kg	0.21	0.59	1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

Client Sample ID: OC-SB-471-0.0/1.0-XXX  
 Lab Sample ID: 360-24417-14

Date Sampled: 09/02/2009 1315  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	11 J	ug/Kg	11	35	1.0

			Acceptance Limits	
2,4,6-Tribromophenol	70	%	30 - 130	
2-Fluorophenol	87	%	30 - 130	
2-Fluorobiphenyl	66	%	30 - 130	
Nitrobenzene-d5	75	%	30 - 130	
Phenol-d5	76	%	30 - 130	
Terphenyl-d14	77	%	30 - 130	

Tentatively Identified Compounds			Cas Number	RT
Cyclopentasiloxane, decamethyl-	7.5	T J N	541-2-6	8.08
Vanillin	9.9	T J N	121-33-5	9.61
Phenol, nonyl-	14	T J N	25154-52-3	10.93
1-Heptadecanol	12	T J N	1454-85-9	12.18
Tridecane, 1-iodo-	14	T J N	35599-77-0	12.20
1-Octadecene	49	T J N	112-88-9	12.99
1-Eicosene	510	T J N	3452-7-1	14.09
1-Hexacosene	52	T J N	18835-33-1	14.83
17-Pentatriacontene	120	T J N	6971-40-0	16.02
Squalene	260	T J N	7683-64-9	16.10

Method: 8270C LL	Date Analyzed:	09/24/2009 0334
Prep Method: 3550B	Date Prepared:	09/15/2009 1206
N-Nitrosodimethylamine	ug/Kg	1.3 5.4 1.0

Surrogate			Acceptance Limits	
2,4,6-Tribromophenol	77	%	30 - 130	
2-Fluorobiphenyl	67	%	30 - 130	
2-Fluorophenol	64	%	30 - 130	
Nitrobenzene-d5	65	%	30 - 130	
Phenol-d5	72	%	30 - 130	
Terphenyl-d14	87	%	30 - 130	

Method: 8315A	Date Analyzed:	09/04/2009 1755
Prep Method: 8315_S_Prep	Date Prepared:	09/04/2009 0735
Formaldehyde	ug/Kg	85 110 1.0
Acetaidehyde	ug/Kg	32 220 1.0

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Job Number: 360-24417-1  
 Sdg Number: OCRI-10

**Client Sample ID:** OC-SB-471-3.0/5.0-XXX  
**Lab Sample ID:** 360-24417-15

Date Sampled: 09/02/2009 1330  
 Date Received: 09/02/2009 1710  
 Client Matrix: Solid  
 Percent Solids: 81

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	41	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	41	1.0
Pentachlorophenol	ND	ug/Kg	12	41	1.0
Phenanthrene	ND	ug/Kg	12	49	1.0
Phenol	ND	ug/Kg	12	41	1.0
Pyrene	ND	ug/Kg	12	41	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	62	%	30 - 130
2-Fluorobiphenyl	57	%	30 - 130
Nitrobenzene-d5	56	%	30 - 130
Phenol-d5	66	%	30 - 130
Terphenyl-d14	68	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
3-Heptene, 2,2,4,6,6-pentamethyl-	17	T J N	123-48-8	6.23
Butylated Hydroxytoluene	15	T J N	128-37-0	9.44
Benzothiazole, 2-(methylthio)-	17	T J N	615-22-5	9.99
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	32	T J N	3910-35-8	10.46
2,4-Diphenyl-4-methyl-2(E)-pentene	11	T J N	22768-22-5	10.96
Octadecanoic acid, methyl ester	11	T J N	112-61-8	12.09
Cyclotetacosane	93	T J N	297-3-0	14.02
Squalene	140	T J N	7683-64-9	14.35
p,p"-Diocylidiphenylamine	910	T J N	26603-23-6	14.82
.gamma.-Sitosterol	84	T J N	83-47-6	15.96

<b>Method:</b> 8270C LL	Date Analyzed:	09/24/2009 0408
<b>Prep Method:</b> 3550B	Date Prepared:	09/15/2009 1206
N-Nitrosodimethylamine	ug/Kg	1.4

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	79	%	30 - 130
2-Fluorobiphenyl	65	%	30 - 130
2-Fluorophenol	58	%	30 - 130
Nitrobenzene-d5	59	%	30 - 130
Phenol-d5	66	%	30 - 130
Terphenyl-d14	91	%	30 - 130

<b>Method:</b> 8315A	Date Analyzed:	09/04/2009 1807
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/04/2009 0735
Formaldehyde	180	ug/Kg
Acetaldehyde	ND	ug/Kg

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Job Number: 360-24417-1  
Sdg Number: OCRI-10

Client Sample ID: OC-SB-471-26/28-XXX  
Lab Sample ID: 360-24417-16

Date Sampled: 09/02/2009 1430  
Date Received: 09/02/2009 1710  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/04/2009 1819	
Prep Method: 8315_S_Prep			Date Prepared:	09/04/2009 0735	
Formaldehyde	640	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/26/10

Reviewer: C Ricardi

24444

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

Acetaldehyde in MBK

No other issues

2. Holding Time and Sample Preservation/Collection

Collected 9/3 9/9 6 days

3. QC Blanks

Soil MBK - 39.1 ± Acet n/a

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

SB-459 6.0/8.0

Acet - 69/63

Form - 310/200 RPD=43

6. Lab Duplicate Precision (20/35)

NA

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24444-2 SB 459 6.0/8.0

Acet - 51-53 low  
Form - on

8. Surrogate Recovery (if applicable)

NA

9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24444-1  
 Sdg Number: OCRI-11

Client Sample ID: OC-SB-459-6.0/8.0-DUP  
 Lab Sample ID: 360-24444-1

Date Sampled: 09/03/2009 1130  
 Date Received: 09/03/2009 1650  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
<b>Surrogate</b>						Acceptance Limits
2,4,6-Tribromophenol	0	X D	%		30 - 130	
2-Fluorophenol	0	X D	%		30 - 130	
2-Fluorobiphenyl	0	X D	%		30 - 130	
Nitrobenzene-d5	0	X D	%		30 - 130	
Phenol-d5	0	X D	%		30 - 130	
Terphenyl-d14	0	X D	%		30 - 130	
<b>Method:</b> 8270C LL <b>Run Type:</b> DL2				Date Analyzed:	09/29/2009 0212	
<b>Prep Method:</b> 3546				Date Prepared:	09/14/2009 1300	
Diphenylamine	120	J	ug/Kg	110	380	10
<b>Tentatively Identified Compounds</b>						Cas Number RT
Tentatively Identified Compound	None		ug/Kg		0.00	10
<b>Method:</b> 8270C LL <b>Run Type:</b> DL3				Date Analyzed:	09/29/2009 0212	
<b>Prep Method:</b> 3546				Date Prepared:	09/14/2009 1300	
N-Nitrosodiphenylamine	ND		ug/Kg	110	380	10
<b>Method:</b> 8270C LL				Date Analyzed:	09/24/2009 0516	
<b>Prep Method:</b> 3550B				Date Prepared:	09/15/2009 1206	
N-Nitrosodimethylamine	ND		ug/Kg	13	57	10
<b>Surrogate</b>						Acceptance Limits
2,4,6-Tribromophenol	0	X	%		30 - 130	
2-Fluorobiphenyl	35		%		30 - 130	
2-Fluorophenol	31		%		30 - 130	
Nitrobenzene-d5	34		%		30 - 130	
Phenol-d5	36		%		30 - 130	
Terphenyl-d14	0	X	%		30 - 130	
<b>Method:</b> 8315A				Date Analyzed:	09/09/2009 1626	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/09/2009 0735	
Formaldehyde	310		ug/Kg	88	110	1.0
Acetaldehyde	69	UJ JB	ug/Kg	33	220	1.0
<b>Method:</b> LC65				Date Analyzed:	09/09/2009 2058	
<b>Prep Method:</b> LC65				Date Prepared:	09/09/2009 0735	
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	20	110	1.0
<b>Method:</b> 6010B				Date Analyzed:	09/08/2009 1547	
<b>Prep Method:</b> 3050B				Date Prepared:	09/08/2009 0716	
Aluminum	4900	A	mg/Kg	0.86	3.3	1.0
Antimony	ND		mg/Kg	0.24	0.66	1.0

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Job Number: 360-24444-1  
 Sdg Number: OCRI-11

**Client Sample ID:** OC-SB-459-6.0/8.0-XXX  
**Lab Sample ID:** 360-24444-2

Date Sampled: 09/03/2009 1130  
 Date Received: 09/03/2009 1650  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
<b>Surrogate</b>						<b>Acceptance Limits</b>
Terphenyl-d14	0	X	%			30 - 130
<b>Tentatively Identified Compounds</b>			<b>Cas Number</b>		<b>RT</b>	
Tentatively Identified Compound	None		ug/Kg		0.00	1000
<b>Method: 8270C LL Run Type: DL3</b>						
<b>Prep Method: 3546</b>						
N-Nitrosodiphenylamine	120	J	ug/Kg	110	380	10
<b>Method: 8270C LL</b>						
<b>Prep Method: 3550B</b>						
N-Nitrosodimethylamine	ND		ug/Kg	13	57	10
<b>Surrogate</b>						<b>Acceptance Limits</b>
2,4,6-Tribromophenol	0	X	%		30 - 130	
2-Fluorobiphenyl	32		%		30 - 130	
2-Fluorophenol	26	X	%		30 - 130	
Nitrobenzene-d5	30		%		30 - 130	
Phenol-d5	30		%		30 - 130	
Terphenyl-d14	0	X	%		30 - 130	
<b>Method: 8315A</b>						
<b>Prep Method: 8315_S_Prep</b>						
Formaldehyde	200		ug/Kg	86	110	1.0
Acetaldehyde	63	WJB	ug/Kg	32	220	1.0
<b>Method: LC65</b>						
<b>Prep Method: LC65</b>						
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	20	110	1.0
<b>Method: 6010B</b>						
<b>Prep Method: 3050B</b>						
Aluminum	4600	^	mg/Kg	0.93	3.6	1.0
Antimony	ND		mg/Kg	0.26	0.71	1.0
Arsenic	3.1		mg/Kg	0.13	1.4	1.0
Barium	6.4		mg/Kg	0.093	0.71	1.0
Beryllium	0.11	J	mg/Kg	0.036	0.28	1.0
Cadmium	0.086	J	mg/Kg	0.010	0.28	1.0
Calcium	310	B	mg/Kg	3.6	14	1.0
Chromium	7.4	B	mg/Kg	0.095	0.71	1.0
Cobalt	1.7		mg/Kg	0.093	0.71	1.0
Copper	3.7		mg/Kg	0.093	1.4	1.0
Iron	5100	B	mg/Kg	1.1	7.1	1.0

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Job Number: 360-24444-1  
 Sdg Number: OCRI-11

Client Sample ID: OC-SB-459-0.0/1.0-XXX  
 Lab Sample ID: 360-24444-12

Date Sampled: 09/03/2009 1110  
 Date Received: 09/03/2009 1650  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	80	%	30 - 130		
2-Fluorobiphenyl	70	%	30 - 130		
2-Fluorophenol	63	%	30 - 130		
Nitrobenzene-d5	69	%	30 - 130		
Phenol-d5	73	%	30 - 130		
Terphenyl-d14	91	%	30 - 130		
<b>Method: 8315A</b>			Date Analyzed:	09/09/2009 1614	
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	09/09/2009 0735	
Formaldehyde	250	ug/Kg	82	110	1.0
Acetaldehyde	37	ug/Kg	31	210	1.0
<b>Method: LC65</b>			Date Analyzed:	09/09/2009 2045	
<b>Prep Method: LC65</b>			Date Prepared:	09/09/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method: 8082</b>			Date Analyzed:	09/04/2009 2122	
<b>Prep Method: 3546</b>			Date Prepared:	09/04/2009 1121	
PCB-1016	ND	ug/Kg	14	100	1.0
PCB-1221	ND	ug/Kg	16	100	1.0
PCB-1232	ND	ug/Kg	25	100	1.0
PCB-1242	ND	ug/Kg	67	100	1.0
PCB-1248	ND	ug/Kg	23	100	1.0
PCB-1254	ND	ug/Kg	27	100	1.0
PCB-1260	ND	ug/Kg	29	100	1.0
PCB-1262	ND	ug/Kg	14	100	1.0
PCB-1268	ND	ug/Kg	22	100	1.0
Surrogate			Acceptance Limits		
DCB Decachlorobiphenyl	111	%	30 - 150		
Tetrachloro-m-xylene	128	%	30 - 150		
<b>Method: 6010B</b>			Date Analyzed:	09/08/2009 1610	
<b>Prep Method: 3050B</b>			Date Prepared:	09/08/2009 0716	
Aluminum	8400	^	mg/Kg	0.72	2.8
Antimony	ND		mg/Kg	0.20	0.56
Arsenic	5.6		mg/Kg	0.10	1.1
Barium	11		mg/Kg	0.072	0.56
Beryllium	0.26		mg/Kg	0.028	0.22
Cadmium	0.14	J	mg/Kg	0.0078	0.22
Calcium	810	B	mg/Kg	2.8	11
Chromium	12	B	mg/Kg	0.074	0.56

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Job Number: 360-24444-1  
Sdg Number: OCRI-11

Client Sample ID: OC-SB-459-26/28-XXX  
Lab Sample ID: 360-24444-13

Date Sampled: 09/03/2009 1225  
Date Received: 09/03/2009 1650  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate	Acceptance Limits				
Toluene-d8 (Surf)	103	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Unknown	1.6	T J	ug/Kg	10.66	1.0
Method: 8315A			Date Analyzed:	09/09/2009 1602	
Prep Method: 8315_S_Prep			Date Prepared:	09/09/2009 0735	
Formaldehyde	150	47	ug/Kg	110	1.0
Acetaldehyde		JB	ug/Kg	220	1.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL  
Date: 3/29/10      Reviewer: C Ricardi

24454

Chemist Review    Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

Acetaldehyde in MBK > RL

2. Holding Time and Sample Preservation/Collection

Collected 9/4 Prep 9/9 5 days

3. QC Blanks      Soil MBK Act 39.1 J ~~All other results~~

Water MBK-ND EBK-ND

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

N/A

6. Lab Duplicate Precision (20/35)

N/A

7. Matrix Spike Results (if applicable) 75-125% (20/30)

See Batch From 24444

8. Surrogate Recovery (if applicable)

N/A

9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24454-1  
 Sdg Number: OCRI-12

Client Sample ID: OC-SB-472-0.0/1.0-XXX  
 Lab Sample ID: 360-24454-7

Date Sampled: 09/04/2009 0745  
 Date Received: 09/04/2009 1605  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	42	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	20 J	ug/Kg	11	35	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	77	%	30 - 130
2-Fluorophenol	93	%	30 - 130
2-Fluorobiphenyl	70	%	30 - 130
Nitrobenzene-d5	76	%	30 - 130
Phenol-d5	76	%	30 - 130
Terphenyl-d14	85	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Perhydrobenzo[a]cycloheptene-6,8-dicarbo	25	T J N	1000197-59-7	12.95
1-Eicosene	48	T J N	3452-7-1	14.65
Octacosane	20	T J N	630-2-4	15.83
1-Eicosanol	70	T J N	629-96-9	15.91
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	39	T J N	111-2-4	16.44
1,21-Docosadiene	33	T J N	53057-53-7	16.55
Nonadecane	22	T J N	629-92-5	16.85
1-Nonadecene	54	T J N	18435-45-5	16.97
Eicosane	21	T J N	112-95-8	18.11
Benzidine	21	J	92-87-5	12.82

Method: 8270C LL Date Analyzed: 09/24/2009 0834  
 Prep Method: 3550B Date Prepared: 09/15/2009 1206

N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.4	1.0
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Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	58	%	30 - 130
2-Fluorobiphenyl	58	%	30 - 130
2-Fluorophenol	50	%	30 - 130
Nitrobenzene-d5	49	%	30 - 130
Phenol-d5	58	%	30 - 130
Terphenyl-d14	89	%	30 - 130

Method: 8315A Date Analyzed: 09/09/2009 1638  
 Prep Method: 8315\_S\_Prep Date Prepared: 09/09/2009 0735

Formaldehyde	260	ug/Kg	83	110	1.0
Acetaldehyde	38	ug/Kg	31	210	1.0

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Job Number: 360-24454-1  
 Sdg Number: OCRI-12

Client Sample ID: OC-SB-472-30/32-XXX  
 Lab Sample ID: 360-24454-8

Date Sampled: 09/04/2009 0850  
 Date Received: 09/04/2009 1605  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodimethylamine	ND	ug/Kg	13	36	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0

Surrogate		Acceptance Limits
2,4,6-Tribromophenol	62	% 30 - 130
2-Fluorophenol	83	% 30 - 130
2-Fluorobiphenyl	65	% 30 - 130
Nitrobenzene-d5	68	% 30 - 130
Phenol-d5	68	% 30 - 130
Terphenyl-d14	83	% 30 - 130

Tentatively Identified Compounds		Cas Number	RT
Furan, 2,5-dihydro-2,5-dimethyl-	12	T J N	ug/Kg 59242-27-2 5.56 1.0
Cyclopentasiloxane, decamethyl-	8.9	T J N	ug/Kg 541-2-6 8.29 1.0
Docosane	13	T J N	ug/Kg 629-97-0 13.33 1.0
Nonadecane	22	T J N	ug/Kg 629-92-5 14.54 1.0
Eicosane	21	T J N	ug/Kg 112-95-8 15.27 1.0
Octadecane	32	T J N	ug/Kg 593-45-3 15.83 1.0
Squalene	49	T J N	ug/Kg 7683-64-9 16.44 1.0
Benzidine	21	J	ug/Kg 92-87-5 12.81 1.0

Method: 8270C LL	Date Analyzed:	09/24/2009 0907
Prep Method: 3550B	Date Prepared:	09/15/2009 1206
N-Nitrosodimethylamine	ug/Kg	1.3 5.5 1.0

Surrogate		Acceptance Limits
2,4,6-Tribromophenol	64	% 30 - 130
2-Fluorobiphenyl	63	% 30 - 130
2-Fluorophenol	61	% 30 - 130
Nitrobenzene-d5	57	% 30 - 130
Phenol-d5	67	% 30 - 130
Terphenyl-d14	103	% 30 - 130

Method: 8315A	Date Analyzed:	09/09/2009 1649
Prep Method: 8315_S_Prep	Date Prepared:	09/09/2009 0735
Formaldehyde	290 ug/Kg	83 110 1.0
Acetaldehyde	52 u	31 210 1.0

Method: LC65 Date Analyzed: 09/09/2009 2124

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Job Number: 360-24454-1  
 Sdg Number: OCRI-12

Client Sample ID: OC-SB-472-8.0/10-XXX  
 Lab Sample ID: 360-24454-9

Date Sampled: 09/04/2009 0755  
 Date Received: 09/04/2009 1605  
 Client Matrix: Solid  
 Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	46	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	ND	ug/Kg	12	39	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	66	%		30 - 130	
2-Fluorophenol	83	%		30 - 130	
2-Fluorobiphenyl	62	%		30 - 130	
Nitrobenzene-d5	66	%		30 - 130	
Phenol-d5	68	%		30 - 130	
Terphenyl-d14	75	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Tricyclo[4.3.3.0(1,6)]dodeca-7,11-diene-	28	T J N	1000142-23-9	13.51	1.0
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	12	T J N	111-2-4	16.45	1.0
Benzidine	24	J	92-87-5	12.83	1.0
Method: 8270C LL			Date Analyzed:	09/24/2009 0940	
Prep Method: 3550B			Date Prepared:	09/15/2009 1206	
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	56	%	30 - 130		
2-Fluorobiphenyl	60	%	30 - 130		
2-Fluorophenol	55	%	30 - 130		
Nitrobenzene-d5	52	%	30 - 130		
Phenol-d5	62	%	30 - 130		
Terphenyl-d14	95	%	30 - 130		
Method: 8315A			Date Analyzed:	09/09/2009 1701	
Prep Method: 8315_S_Prep			Date Prepared:	09/09/2009 0735	
Formaldehyde	210	ug/Kg	90	120	1.0
Acetaldehyde	42	ug/Kg	34	230	1.0
Method: LC65			Date Analyzed:	09/09/2009 2137	
Prep Method: LC65			Date Prepared:	09/09/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0
Method: 8082			Date Analyzed:	09/11/2009 1746	
Prep Method: 3546			Date Prepared:	09/11/2009 1013	
PCB-1016	ND	ug/Kg	16	120	1.0

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Job Number: 360-24454-1  
 Sdg Number: OCRI-12

**Client Sample ID:** OC-EBK-008  
**Lab Sample ID:** 360-24454-18

Date Sampled: 09/08/2009 1100  
 Date Received: 09/08/2009 1630  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Diphenylamine	ND	ug/L	0.50	5.0	1.0
<b>Surrogate</b>					
2,4,6-Tribromophenol	75	%		15 - 110	
2-Fluorobiphenyl	66	%		30 - 130	
2-Fluorophenol	23	%		15 - 110	
Nitrobenzene-d5	76	%		30 - 130	
Phenol-d5	11	X	%	15 - 110	
Terphenyl-d14	97	%		30 - 130	
2,4,6-Tribromophenol	75	%		15 - 110	
2-Fluorobiphenyl	66	%		30 - 130	
2-Fluorophenol	23	%		15 - 110	
Nitrobenzene-d5	76	%		30 - 130	
Phenol-d5	11	X	%	15 - 110	
Terphenyl-d14	97	%		30 - 130	
<b>Tentatively Identified Compounds</b>					
Phenol, 2,4-bis(1,1-dimethylethyl)-	0.76	T J N	ug/L	96-76-4	9.84
Diethyltoluamide	1.4	T J N	ug/L	134-62-3	10.17
Tributyl phosphate	0.62	T J N	ug/L	126-73-8	10.36
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	0.37	T J N	ug/L	3910-35-8	10.79
Homomenthyl salicylate	0.49	T J N	ug/L	52253-93-7	11.41
Hexadecane, 1-chloro-	0.40	T J N	ug/L	4860-3-1	11.98
Eicosane	0.44	T J N	ug/L	112-95-8	13.71
Tricosane	0.42	T J N	ug/L	638-67-5	15.71
Docosa-2,6,10,14,18-pentaen-22-al, 2,6,1	0.45	T J N	ug/L	1000163-4-7	15.81
Benzidine	0.70	J *	ug/L	92-87-5	12.28
<b>Method: 8315A</b>					
Date Analyzed: 09/11/2009 1603					
<b>Prep Method: 8315_W_Prep</b>					
Date Prepared: 09/11/2009 0738					
Formaldehyde	ND		ug/L	5.0	50
Acetaldehyde	ND		ug/L	10	100
<b>Method: LC65</b>					
Date Analyzed: 09/16/2009 1826					
<b>Prep Method: LC65</b>					
Date Prepared: 09/11/2009 0752					
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10
<b>Method: 8082</b>					
Date Analyzed: 09/15/2009 1630					
<b>Prep Method: 3510C</b>					
Date Prepared: 09/14/2009 1004					
PCB-1016	ND		ug/L	0.14	0.30
PCB-1221	ND		ug/L	0.10	0.30
PCB-1232	ND		ug/L	0.12	0.30
PCB-1242	ND		ug/L	0.14	0.30

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site  
Project #: 6107100016  
Date: 3/29/10

Method: Formaldehyde 8315  
Laboratory and SDG: TAL  
Reviewer: C Ricardi

24499

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

Acetaldehyde in MBK

## 2. Holding Time and Sample Preservation/Collection

Collect 9/8      Prep 9/15      7 day  
9/10                5 day  
9/9                 6 day

## 3. QC Blanks

Soil MBK Acet 34 T ~~All limits~~

## 4. Laboratory Control Sample Review (80-120%)

All within limits

## 5. Field Duplicate Precision (30/50)

N/A

## 6. Lab Duplicate Precision (20/35)

N/A

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24499-1 OC5B-466 6.0/8.0 -XXX All within limits

## 8. Surrogate Recovery (if applicable)

N/A

## 9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24499-1  
 Sdg Number: OCRI-13

Client Sample ID: OC-SB-466-6.0/8.0-XXX  
 Lab Sample ID: 360-24499-1

Date Sampled: 09/08/2009 1350  
 Date Received: 09/09/2009 1810  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	70	%	30 - 130
2-Fluorophenol	87	%	30 - 130
2-Fluorobiphenyl	66	%	30 - 130
Nitrobenzene-d5	70	%	30 - 130
Phenol-d5	69	%	30 - 130
Terphenyl-d14	79	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Butylated Hydroxytoluene	11	T J N	128-37-0	10.28
Benzothiazole, 2-(methylthio)-	18	T J N	615-22-5	10.86
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	12	T J N	3910-35-8	11.22
Dotriaccontane	14	T J N	544-85-4	14.55
Heneicosane	13	T J N	629-94-7	15.27
Heptacosane	23	T J N	593-49-7	15.83
Erucylamide	63	T J N	112-84-5	16.29
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	60	T J N	111-2-4	16.44
Eicosane	14	T J N	112-95-8	16.85
Benzidine	21	J	92-87-5	12.81

Method: 8270C LL  
 Prep Method: 3550B  
 N-Nitrosodimethylamine

Date Analyzed: 09/26/2009 1514  
 Date Prepared: 09/15/2009 1206

ug/Kg 1.2 5.4 1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	81	%	30 - 130
2-Fluorobiphenyl	60	%	30 - 130
2-Fluorophenol	59	%	30 - 130
Nitrobenzene-d5	57	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	84	%	30 - 130

Method: 8315A  
 Prep Method: 8315\_S\_Prep  
 Formaldehyde  
 Acetaldehyde

Date Analyzed: 09/16/2009 1127  
 Date Prepared: 09/15/2009 0735

ug/Kg 84 110 1.0  
 ug/Kg 31 220 1.0

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Job Number: 360-24499-1  
Sdg Number: OCRI-13

**Client Sample ID:** OC-SB-466-30/32-XXX  
**Lab Sample ID:** 360-24499-7

Date Sampled: 09/08/2009 1550  
Date Received: 09/09/2009 1810  
Client Matrix: Solid  
Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0

## Surrogate

2,4,6-Tribromophenol	69	%	30 - 130
2-Fluorophenol	90	%	30 - 130
2-Fluorobiphenyl	69	%	30 - 130
Nitrobenzene-d5	77	%	30 - 130
Phenol-d5	78	%	30 - 130
Terphenyl-d14	82	%	30 - 130

### Tentatively Identified Compounds

Alpha-Terpineol	20	J	ug/Kg	98-55-5	8.52	1.0
Octadecane	16	T J N	ug/Kg	593-45-3	13.50	1.0
Pentacosane	28	T J N	ug/Kg	629-99-2	14.10	1.0
Tricosane	20	T J N	ug/Kg	638-67-5	14.83	1.0
Erucylamide	90	T J N	ug/Kg	112-84-5	15.96	1.0
Octacosane	40	T J N	ug/Kg	630-2-4	16.00	1.0
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	160	T J N	ug/Kg	111-2-4	16.10	1.0
Eicosane	28	T J N	ug/Kg	112-95-8	16.48	1.0
Heptacosane	21	T J N	ug/Kg	593-49-7	17.02	1.0
Benzidine	18	J	ug/Kg	92-87-5	12.54	1.0

**Method: 8270C LL**

Date Analyzed: 09/26/2009 1547

**Prep Method:** 3550B

Date Prepared: 09/15/2009 1206

### N-Nitrosodimethylamine

ug/Kg 1.3 5.4 · 1.0

## Surrogate

2,4,6-Tribromophenol	73	%	30 - 130
2-Fluorobiphenyl	63	%	30 - 130
2-Fluorophenol	63	%	30 - 130
Nitrobenzene-d5	62	%	30 - 130
Phenol-d5	70	%	30 - 130
Terphenyl-d14	91	%	30 - 130

Method: 8315A

Prep Method: 8315\_S\_Prep

**Prep Method:**  
Formaldehyde

#### Acetaldehyde

Date Analyzed: 09/16/2009 1203

Date Prepared: 09/15/2009 0735

Date Prepared: 05/10/2000 8:00  
ug/Kg 85 110 1.0  
ug/Kg 32 220 1.0

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Job Number: 360-24499-1  
 Sdg Number: OCRI-13

Client Sample ID: OC-SB-434-0.0/1.0-XXX  
 Lab Sample ID: 360-24499-17

Date Sampled: 09/10/2009 0750  
 Date Received: 09/10/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	81	%	30 - 130		
2-Fluorobiphenyl	74	%	30 - 130		
2-Fluorophenol	66	%	30 - 130		
Nitrobenzene-d5	78	%	30 - 130		
Phenol-d5	69	%	30 - 130		
Terphenyl-d14	106	%	30 - 130		
<b>Method: 8315A</b>			Date Analyzed:	09/16/2009 1214	
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	09/15/2009 0735	
Formaldehyde	1300	ug/Kg	82	100	1.0
Acetaldehyde	120	ug/Kg	30	210	1.0
<b>Method: LC65</b>			Date Analyzed:	09/16/2009 2009	
<b>Prep Method: LC65</b>			Date Prepared:	09/15/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method: 6010B</b>			Date Analyzed:	09/14/2009 1425	
<b>Prep Method: 3050B</b>			Date Prepared:	09/14/2009 0821	
Aluminum	9000	mg/Kg	0.70	2.7	1.0
Antimony	ND	mg/Kg	0.20	0.54	1.0
Arsenic	7.1	mg/Kg	0.099	1.1	1.0
Barium	36	B	mg/Kg	0.070	0.54
Beryllium	0.54		mg/Kg	0.027	0.22
Cadmium	0.32		mg/Kg	0.0076	0.22
Calcium	2200	B	mg/Kg	2.7	1.0
Chromium	30	B	mg/Kg	0.072	0.54
Cobalt	6.4		mg/Kg	0.070	0.54
Copper	14		mg/Kg	0.070	1.0
Iron	17000	B	mg/Kg	0.86	5.4
Lead	10	B	mg/Kg	0.062	0.54
Magnesium	3600	B	mg/Kg	0.54	1.0
Manganese	410		mg/Kg	0.072	1.1
Nickel	26		mg/Kg	0.070	1.1
Potassium	1900		mg/Kg	34	220
Selenium	ND		mg/Kg	0.25	0.54
Silver	ND		mg/Kg	0.054	0.54
Sodium	22	J	mg/Kg	14	1.0
Thallium	0.38	J	mg/Kg	0.078	1.1
Vanadium	74		mg/Kg	0.070	1.1
Zinc	41		mg/Kg	0.64	2.7
Tin	11	B ^	mg/Kg	0.35	5.4

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Job Number: 360-24499-1  
Sdg Number: OCRI-13

Client Sample ID: OC-SB-434-15/16-XXX  
Lab Sample ID: 360-24499-18

Date Sampled: 09/10/2009 0935  
Date Received: 09/10/2009 1820  
Client Matrix: Solid  
Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	1000	ug/Kg	89	110	1.0
Acetaldehyde	120	ug/Kg	33	230	1.0

Ch

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Job Number: 360-24499-1  
 Sdg Number: OCRI-13

Client Sample ID: OC-SB-434-7.0-9.0-XXX  
 Lab Sample ID: 360-24499-19

Date Sampled: 09/10/2009 0815  
 Date Received: 09/10/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	35	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	35	1.0
Pentachlorophenol	ND	ug/Kg	11	35	1.0
Phenanthrene	ND	ug/Kg	11	42	1.0
Phenol	ND	ug/Kg	11	35	1.0
Pyrene	ND	ug/Kg	11	35	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	63	%	30 - 130
2-Fluorophenol	72	%	30 - 130
2-Fluorobiphenyl	60	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	75	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Hexanoic acid, 2-ethyl-	24	T J N	149-57-5	7.82
Butylated Hydroxytoluene	19	T J N	128-37-0	9.86
Phenol, (1,1,3,3-tetramethylbutyl)-	13	T J N	27193-28-8	10.29
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	19	T J N	3910-35-8	10.79
2,4-Diphenyl-4-methyl-2(E)-pentene	11	T J N	22768-22-5	11.20
Hexadecanoic acid, methyl ester	8.3	T J N	112-39-0	11.41
Octadecanoic acid, methyl ester	8.2	T J N	112-61-8	12.08
Nonadecane	14	T J N	629-92-5	13.18
Tricosane, 2-methyl-	17	T J N	1928-30-9	13.72
Erucylamide	52	T J N	112-84-5	15.66

Method: 8270C LL	Date Analyzed:	09/25/2009 2021
Prep Method: 3550B	Date Prepared:	09/18/2009 1122
N-Nitrosodimethylamine	ug/Kg	1.2

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	76	%	30 - 130
2-Fluorobiphenyl	59	%	30 - 130
2-Fluorophenol	58	%	30 - 130
Nitrobenzene-d5	54	%	30 - 130
Phenol-d5	66	%	30 - 130
Terphenyl-d14	81	%	30 - 130

Method: 8315A	Date Analyzed:	09/16/2009 1238
Prep Method: 8315_S_Prep	Date Prepared:	09/15/2009 0735
Formaldehyde	ug/Kg	83
Acetaldehyde	ug/Kg	31

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Job Number: 360-24499-1  
 Sdg Number: OCRI-13

Client Sample ID: OC-SB-450-0.0/1.0-XXX  
 Lab Sample ID: 360-24499-20

Date Sampled: 09/09/2009 1340  
 Date Received: 09/10/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	100	350	10
N-Nitrosodiphenylamine	ND	ug/Kg	100	350	10
Pentachlorophenol	ND	ug/Kg	100	350	10
Phenanthrene	870	ug/Kg	100	420	10
Phenol	ND	ug/Kg	100	350	10
Pyrene	1500	ug/Kg	100	350	10

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	79	%	30 - 130
2-Fluorobiphenyl	64	%	30 - 130
Nitrobenzene-d5	67	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	77	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Butylated Hydroxytoluene	140	T J N	128-37-0	9.85
Benzothiazole, 2-(methylthio)-	200	T J N	615-22-5	10.41
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	250	T J N	3910-35-8	10.79
Pentadecanoic acid, 14-methyl-, methyl e	88	T J N	5129-60-2	11.41
4H-Cyclopenta[def]phenanthrene	230	T J N	203-64-5	11.66
9,10-Anthracenedione	97	T J N	84-65-1	11.82
Naphthalene, 1-phenyl-	210	T J N	605-2-7	12.38
Nonadecane, 9-methyl-	830	T J N	13287-24-6	16.18
Perylene	650	T J N	198-55-0	16.38
Benzidine	240	J	92-87-5	12.27

Method: 8270C LL  
 Prep Method: 3550B  
 N-Nitrosodimethylamine

Date Analyzed: 09/25/2009 2053

Date Prepared: 09/18/2009 1122

ug/Kg 12 53 10

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	77	%	30 - 130
2-Fluorobiphenyl	77	%	30 - 130
2-Fluorophenol	64	%	30 - 130
Nitrobenzene-d5	73	%	30 - 130
Phenol-d5	70	%	30 - 130
Terphenyl-d14	96	%	30 - 130

Method: 8315A  
 Prep Method: 8315\_S\_Prep

Date Analyzed: 09/16/2009 1250

Date Prepared: 09/15/2009 0735

Formaldehyde 350 ug/Kg 82 100 1.0  
 Acetaldehyde 56 ug/Kg 30 210 1.0

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Job Number: 360-24499-1  
Sdg Number: OCRI-13

Client Sample ID: OC-SB-450-33/35-XXX  
Lab Sample ID: 360-24499-21

Date Sampled: 09/09/2009 1655  
Date Received: 09/10/2009 1820  
Client Matrix: Solid  
Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A					
Prep Method: 8315_S_Prep					
Formaldehyde	320	ug/Kg	85	110	1.0
Acetaldehyde	41	ug/Kg	32	220	1.0

CR

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Job Number: 360-24499-1  
 Sdg Number: OCRI-13

Client Sample ID: OC-SB-450-8.0/10-XXX  
 Lab Sample ID: 360-24499-22

Date Sampled: 09/09/2009 1355  
 Date Received: 09/10/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	46	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	60	%	30 - 130
2-Fluorophenol	78	%	30 - 130
2-Fluorobiphenyl	63	%	30 - 130
Nitrobenzene-d5	67	%	30 - 130
Phenol-d5	72	%	30 - 130
Terphenyl-d14	78	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
3-Penten-2-one, 4-methyl-	13	T J N	141-79-7	5.02
Benzothiazole, 2-(methylthio)-	14	T J N	615-22-5	10.41
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	10	T J N	3910-35-8	10.78
1,1'-Biphenyl, (phenylmethyl)-	9.5	T J N	31307-59-2	11.82
1-Nonadecene	22	T J N	18435-45-5	13.84
2,6,10,14,18,22-Tetracosahexaene, 2,6,10	240	T J N	111-2-4	15.81
Benzidine	26	J	92-87-5	12.28

Method: 8270C LL	Date Analyzed:	09/25/2009 2126
Prep Method: 3550B	Date Prepared:	09/18/2009 1122
N-Nitrosodimethylamine	ug/Kg	1.3

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	78	%	30 - 130
2-Fluorobiphenyl	59	%	30 - 130
2-Fluorophenol	61	%	30 - 130
Nitrobenzene-d5	58	%	30 - 130
Phenol-d5	66	%	30 - 130
Terphenyl-d14	86	%	30 - 130

Method: 8315A	Date Analyzed:	09/16/2009 1313
Prep Method: 8315_S_Prep	Date Prepared:	09/15/2009 0735
Formaldehyde	ug/Kg	90
Acetaldehyde	ug/Kg	33

Method: LC65	Date Analyzed:	09/16/2009 2113
Prep Method: LC65	Date Prepared:	09/15/2009 0735
Phthalic Acid/Phthalic anhydride	ug/Kg	20

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site  
Project #: 610710016  
Date: 3/29/10

Method: Formaldehyde 8315  
Laboratory and SDG: TAL  
Reviewer: C Ricardi

24563

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

No Issues

2. Holding Time and Sample Preservation/Collection

Collect 9/10 Prep 9/16 6 day  
9/11 5 day

3. QC Blanks

MBK-ND

4. Laboratory Control Sample Review (80-120%)

Acet Low 72-76% Batch 60997  
US/JAN

5. Field Duplicate Precision (30/50)

SB-456 7.0/9.0 act Form  
33/210u 210/280

SB-427 8.0/10 200u/210u 100/875

6. Lab Duplicate Precision (20/35)

N/A

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24563-14 SB-456 7.0/9.0 within limits  
24565-5 SB-427 8.0/10 within limits

8. Surrogate Recovery (if applicable)

N/A

9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-427-0.0/1.0-XXX  
**Lab Sample ID:** 360-24563-1

Date Sampled: 09/10/2009 1340  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
Nitrobenzene-d5	66	%	30 - 130		
Phenol-d5	66	%	30 - 130		
Terphenyl-d14	109	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/16/2009 1544	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/16/2009 0735	
Formaldehyde	210	ug/Kg	83	110	1.0
Acetaldehyde	ND <i>US</i>	ug/Kg	31	210	1.0
<b>Method:</b> LC65			Date Analyzed:	09/21/2009 0307	
<b>Prep Method:</b> LC65			Date Prepared:	09/17/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/15/2009 1357	
<b>Prep Method:</b> 3050B			Date Prepared:	09/15/2009 0908	
Aluminum	5300	mg/Kg	0.76	2.9	1.0
Antimony	ND	mg/Kg	0.21	0.59	1.0
Arsenic	5.1	mg/Kg	0.11	1.2	1.0
Barium	9.3	B	mg/Kg	0.076	1.0
Beryllium	0.17	J	mg/Kg	0.029	1.0
Cadmium	0.11	J	mg/Kg	0.0082	1.0
Calcium	770	B	mg/Kg	2.9	1.0
Chromium	12	B	mg/Kg	0.078	1.0
Cobalt	2.3		mg/Kg	0.076	1.0
Copper	7.9		mg/Kg	0.076	1.0
Iron	6600	B	mg/Kg	0.94	1.0
Lead	8.7		mg/Kg	0.067	1.0
Magnesium	1400	B	mg/Kg	0.59	1.0
Manganese	40	B	mg/Kg	0.079	1.0
Nickel	6.8		mg/Kg	0.076	1.0
Potassium	580		mg/Kg	37	1.0
Selenium	ND		mg/Kg	0.28	1.0
Silver	ND		mg/Kg	0.059	1.0
Sodium	ND		mg/Kg	15	1.0
Thallium	ND		mg/Kg	0.085	1.0
Vanadium	19		mg/Kg	0.076	1.0
Zinc	14		mg/Kg	0.69	1.0
Tin	4.3	J B ^	mg/Kg	0.38	1.0
<b>Method:</b> 7471A			Date Analyzed:	09/18/2009 1142	
<b>Prep Method:</b> 7471A			Date Prepared:	09/17/2009 1034	
Mercury	ND		mg/Kg	0.035	0.19

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

Client Sample ID: OC-SB-427-12/14-XXX  
 Lab Sample ID: 360-24563-2

Date Sampled: 09/10/2009 1435  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Surrogate</b>					
2,4,6-Tribromophenol	0	X D	%	30 - 130	
2-Fluorophenol	0	X D	%	30 - 130	
2-Fluorobiphenyl	0	X D	%	30 - 130	
Nitrobenzene-d5	0	X D	%	30 - 130	
Phenol-d5	0	X D	%	30 - 130	
Terphenyl-d14	0	X D	%	30 - 130	
N-Nitrosodiphenylamine	500000	ug/Kg	11000	37000	1000
<b>Method: 8270C LL Run Type: DL3</b>					
Prep Method: 3546			Date Analyzed:	10/03/2009 0315	
N-Nitrosodiphenylamine	160000	ug/Kg	Date Prepared:	09/16/2009 1513	
<b>Method: 8270C LL</b>					
Prep Method: 3550B			Date Analyzed:	09/25/2009 2231	
N-Nitrosodimethylamine	ND	ug/Kg	Date Prepared:	09/18/2009 1122	
<b>Surrogate</b>					
2,4,6-Tribromophenol	0	X	%	30 - 130	
2-Fluorobiphenyl	89		%	30 - 130	
2-Fluorophenol	62		%	30 - 130	
Nitrobenzene-d5	96		%	30 - 130	
Phenol-d5	89		%	30 - 130	
Terphenyl-d14	0	X	%	30 - 130	
<b>Method: 8315A</b>					
Prep Method: 8315_S_Prep			Date Analyzed:	09/16/2009 1555	
Formaldehyde	110	J	ug/Kg	86	1.0
Acetaldehyde	ND	UJ	ug/Kg	32	220
<b>Method: LC65</b>					
Prep Method: LC65			Date Analyzed:	09/21/2009 0320	
Phthalic Acid/Phthalic anhydride	34	J	ug/Kg	20	110
<b>Method: 6010B</b>					
Prep Method: 3050B			Date Analyzed:	09/15/2009 1400	
Aluminum	4300		mg/Kg	0.91	3.5
Antimony	ND		mg/Kg	0.25	0.70
Arsenic	3.8		mg/Kg	0.13	1.4
Barium	11	B	mg/Kg	0.091	0.70
Beryllium	0.20	J	mg/Kg	0.035	0.28
Cadmium	0.092	J	mg/Kg	0.0097	0.28
Calcium	610	B	mg/Kg	3.5	28

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Job Number: 360-24563-1  
Sdg Number: OCRI-14

Client Sample ID: OC-SB-427-17/19-XXX  
Lab Sample ID: 360-24563-3

Date Sampled: 09/10/2009 1505  
Date Received: 09/11/2009 1820  
Client Matrix: Solid  
Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
Toluene-d8 (Surr)	103	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Tentatively Identified Compound	None	ug/Kg		0.00	1.0
Method: 8315A			Date Analyzed:	09/16/2009 1607	
Prep Method: 8315_S_Prep			Date Prepared:	09/16/2009 0735	
Formaldehyde	130	ug/Kg	84	110	1.0
Acetaldehyde	ND <i>us</i>	ug/Kg	31	220	1.0

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

Client Sample ID: OC-SB-427-8.0/10-DUP  
 Lab Sample ID: 360-24563-4

Date Sampled: 09/10/2009 1400  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Prep Method: 3546		Date Prepared:	09/16/2009 1513		
N-Nitrosodiphenylamine	240	ug/Kg	10	35	1.0
Method: 8270C LL		Date Analyzed:	09/25/2009 2304		
Prep Method: 3550B		Date Prepared:	09/18/2009 1122		
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	41	%		30 - 130	
2-Fluorobiphenyl	61	%		30 - 130	
2-Fluorophenol	42	%		30 - 130	
Nitrobenzene-d5	62	%		30 - 130	
Phenol-d5	49	%		30 - 130	
Terphenyl-d14	98	%		30 - 130	
Method: 8315A		Date Analyzed:	09/16/2009 1619		
Prep Method: 8315_S_Prep		Date Prepared:	09/16/2009 0735		
Formaldehyde	100	ug/Kg	81	100	1.0
Acetaldehyde	ND	ug/Kg	30	210	1.0
Method: LC65		Date Analyzed:	09/21/2009 0346		
Prep Method: LC65		Date Prepared:	09/17/2009 0735		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0
Method: 6010B		Date Analyzed:	09/15/2009 1408		
Prep Method: 3050B		Date Prepared:	09/15/2009 0908		
Aluminum	2900	mg/Kg	0.82	3.2	1.0
Antimony	ND	mg/Kg	0.23	0.63	1.0
Arsenic	3.9	mg/Kg	0.12	1.3	1.0
Barium	7.5	B	mg/Kg	0.082	0.63
Beryllium	0.11	J	mg/Kg	0.032	0.25
Cadmium	0.062	J	mg/Kg	0.0089	0.25
Calcium	440	B	mg/Kg	3.2	25
Chromium	5.5	B	mg/Kg	0.084	0.63
Cobalt	1.8		mg/Kg	0.082	0.63
Copper	3.2		mg/Kg	0.082	1.3
Iron	4100	B	mg/Kg	1.0	6.3
Lead	1.3		mg/Kg	0.072	0.63
Magnesium	900	B	mg/Kg	0.63	13
Manganese	32	B	mg/Kg	0.085	1.3
Nickel	5.0		mg/Kg	0.082	1.3
Potassium	490		mg/Kg	40	250
Selenium	ND		mg/Kg	0.30	0.63
Silver	ND		mg/Kg	0.064	0.63

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-427-8.0/10-XXX  
**Lab Sample ID:** 360-24563-5

Date Sampled: 09/10/2009 1400  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 96

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Prep Method:</b> 3546		Date Prepared:	09/16/2009 1513		
N-Nitrosodiphenylamine	320	ug/Kg	10	34	1.0
<b>Method:</b> 8270C LL		Date Analyzed:	09/25/2009 2336		
<b>Prep Method:</b> 3550B		Date Prepared:	09/18/2009 1122		
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	40	%		30 - 130	
2-Fluorobiphenyl	68	%		30 - 130	
2-Fluorophenol	42	%		30 - 130	
Nitrobenzene-d5	63	%		30 - 130	
Phenol-d5	51	%		30 - 130	
Terphenyl-d14	62	%		30 - 130	
<b>Method:</b> 8315A		Date Analyzed:	09/16/2009 1631		
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	09/16/2009 0735		
Formaldehyde	87	J	ug/Kg	79	1.0
Acetaldehyde	ND	WT	ug/Kg	29	1.0
<b>Method:</b> LC65		Date Analyzed:	09/21/2009 0359		
<b>Prep Method:</b> LC65		Date Prepared:	09/17/2009 0735		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0
<b>Method:</b> 6010B		Date Analyzed:	09/15/2009 1342		
<b>Prep Method:</b> 3050B		Date Prepared:	09/15/2009 0908		
Aluminum	3000	mg/Kg	0.86	3.3	1.0
Antimony	0.67	mg/Kg	0.24	0.66	1.0
Arsenic	4.1	mg/Kg	0.12	1.3	1.0
Barium	7.3	B	mg/Kg	0.086	1.0
Beryllium	0.12	J	mg/Kg	0.033	1.0
Cadmium	0.061	J	mg/Kg	0.0092	1.0
Calcium	450	B	mg/Kg	3.3	1.0
Chromium	5.3	B	mg/Kg	0.088	1.0
Cobalt	1.8		mg/Kg	0.086	1.0
Copper	3.1		mg/Kg	0.086	1.0
Iron	4100	B	mg/Kg	1.1	1.0
Lead	1.4		mg/Kg	0.075	1.0
Magnesium	880	B	mg/Kg	0.66	1.0
Manganese	32	B	mg/Kg	0.088	1.0
Nickel	5.0		mg/Kg	0.086	1.0
Potassium	530		mg/Kg	41	1.0
Selenium	ND		mg/Kg	0.31	1.0
Silver	ND		mg/Kg	0.066	1.0

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Job Number: 360-24563-1  
Sdg Number: OCRI-14

Client Sample ID: OC-SB-428-23/25-XXX  
Lab Sample ID: 360-24563-7

Date Sampled: 09/10/2009 1740  
Date Received: 09/11/2009 1820  
Client Matrix: Solid  
Percent Solids: 88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
Toluene-d8 (Surr)	104	%	70 - 130		
Tentatively Identified Compounds			Cas Number	RT	
Tentatively Identified Compound	None	ug/Kg		0.00	1.0
Method: 8315A			Date Analyzed:	09/16/2009 1718	
Prep Method: 8315_S_Prep			Date Prepared:	09/16/2009 0735	
Formaldehyde	520	ug/Kg	87	110	1.0
Acetaldehyde	73 J	ug/Kg	32	220	1.0

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-428-8.0/10-XXX  
**Lab Sample ID:** 360-24563-9

Date Sampled: 09/10/2009 1620  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 94

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	110	350	10
N-Nitrosodiphenylamine	ND	ug/Kg	110	350	10
Pentachlorophenol	ND	ug/Kg	110	350	10
Phenanthrene	ND	ug/Kg	110	430	10
Phenol	ND	ug/Kg	110	350	10
Pyrene	ND	ug/Kg	110	350	10
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	52	%		30 - 130	
2-Fluorophenol	71	%		30 - 130	
2-Fluorobiphenyl	56	%		30 - 130	
Nitrobenzene-d5	40	%		30 - 130	
Phenol-d5	42	%		30 - 130	
Terphenyl-d14	75	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
.alpha.-Methylstyrene	120	T J N	ug/Kg	98-83-9	7.00
Butylated Hydroxytoluene	620	T J N	ug/Kg	128-37-0	9.86
<b>Method:</b> 8270C LL				Date Analyzed:	09/26/2009 0146
<b>Prep Method:</b> 3550B				Date Prepared:	09/18/2009 1122
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.3	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	0	X	%	30 - 130	
2-Fluorobiphenyl	140	X	%	30 - 130	
2-Fluorophenol	59		%	30 - 130	
Nitrobenzene-d5	68		%	30 - 130	
Phenol-d5	67		%	30 - 130	
Terphenyl-d14	0	X	%	30 - 130	
<b>Method:</b> 8315A				Date Analyzed:	09/16/2009 1730
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/16/2009 0735
Formaldehyde	190	ug/Kg	83	110	1.0
Acetaldehyde	ND	ug/Kg	31	210	1.0
<b>Method:</b> LC65				Date Analyzed:	09/21/2009 0516
<b>Prep Method:</b> LC65				Date Prepared:	09/17/2009 0735
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	100	1.0
<b>Method:</b> 6010B				Date Analyzed:	09/15/2009 1414
<b>Prep Method:</b> 3050B				Date Prepared:	09/15/2009 0908
Aluminum	2300	mg/Kg	0.78	3.0	1.0
Antimony	ND	mg/Kg	0.22	0.60	1.0

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

Client Sample ID: OC-SB-456-0.0/1.0-XXX  
 Lab Sample ID: 360-24563-11

Date Sampled: 09/11/2009 0830  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 98

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	51	%	30 - 130		
2-Fluorobiphenyl	62	%	30 - 130		
2-Fluorophenol	42	%	30 - 130		
Nitrobenzene-d5	41	%	30 - 130		
Phenol-d5	51	%	30 - 130		
Terphenyl-d14	104	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/16/2009 1742	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/16/2009 0735	
Formaldehyde	190	ug/Kg	80	100	1.0
Acetaldehyde	ND <i>US</i>	ug/Kg	30	210	1.0
<b>Method:</b> LC65			Date Analyzed:	09/21/2009 0529	
<b>Prep Method:</b> LC65			Date Prepared:	09/17/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	18	100	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/15/2009 1417	
<b>Prep Method:</b> 3050B			Date Prepared:	09/15/2009 0908	
Aluminum	4400	mg/Kg	0.83	3.2	1.0
Antimony	ND	mg/Kg	0.23	0.64	1.0
Arsenic	3.7	mg/Kg	0.12	1.3	1.0
Barium	9.2	B	mg/Kg	0.083	0.64
Beryllium	0.17	J	mg/Kg	0.032	0.26
Cadmium	0.072	J	mg/Kg	0.0090	0.26
Calcium	500	B	mg/Kg	3.2	1.0
Chromium	33	B	mg/Kg	0.085	0.64
Cobalt	2.0		mg/Kg	0.083	0.64
Copper	3.3		mg/Kg	0.083	1.3
Iron	5300	B	mg/Kg	1.0	6.4
Lead	2.6		mg/Kg	0.073	0.64
Magnesium	1200	B	mg/Kg	0.64	13
Manganese	48	B	mg/Kg	0.086	1.3
Nickel	6.0		mg/Kg	0.083	1.3
Potassium	520		mg/Kg	40	260
Selenium	ND		mg/Kg	0.30	0.64
Silver	0.35	J	mg/Kg	0.064	0.64
Sodium	48	J B	mg/Kg	17	130
Thallium	ND		mg/Kg	0.093	1.3
Vanadium	7.6		mg/Kg	0.083	1.3
Zinc	10		mg/Kg	0.75	3.2
Tin	13	B ^	mg/Kg	0.41	6.4

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-456-16/18-XXX  
**Lab Sample ID:** 360-24563-12

Date Sampled: 09/11/2009 1040  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0	
Pentachlorophenol	ND	ug/Kg	11	36	1.0	
Phenanthrene	ND	ug/Kg	11	43	1.0	
Phenol	ND	ug/Kg	11	36	1.0	
Pyrene	ND	ug/Kg	11	36	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	38	%		30 - 130		
2-Fluorophenol	61	%		30 - 130		
2-Fluorobiphenyl	54	%		30 - 130		
Nitrobenzene-d5	56	%		30 - 130		
Phenol-d5	42	%		30 - 130		
Terphenyl-d14	84	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
.alpha.-Methylstyrene	24	T J N	ug/Kg	98-83-9	6.99	1.0
Butylated Hydroxytoluene	15	T J N	ug/Kg	128-37-0	9.86	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	19	T J N	ug/Kg	3910-35-8	10.79	1.0
Tricosane	15	T J N	ug/Kg	638-67-5	13.73	1.0
Heptadecane	19	T J N	ug/Kg	629-78-7	14.38	1.0
Eicosane	19	T J N	ug/Kg	112-95-8	15.14	1.0
Eicosane	59	T J N	ug/Kg	112-95-8	15.71	1.0
Squalene	24	T J N	ug/Kg	7683-64-9	15.82	1.0
Octadecane	34	T J N	ug/Kg	593-45-3	16.18	1.0
Benzidine	25	J	ug/Kg	92-87-5	12.29	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/26/2009 0251	
<b>Prep Method:</b> 3550B				Date Prepared:	09/18/2009 1122	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.5	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	30	%		30 - 130		
2-Fluorobiphenyl	60	%		30 - 130		
2-Fluorophenol	39	%		30 - 130		
Nitrobenzene-d5	55	%		30 - 130		
Phenol-d5	42	%		30 - 130		
Terphenyl-d14	113	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	09/16/2009 1753	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/16/2009 0735	
Formaldehyde	230	ug/Kg	84	110	1.0	
Acetaldehyde	ND	ug/Kg	31	220	1.0	

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Job Number: 360-24563-1  
Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-456-7.0/9.0-DUP  
**Lab Sample ID:** 360-24563-13

Date Sampled: 09/11/2009 0900  
Date Received: 09/11/2009 1820  
Client Matrix: Solid  
Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Biphenol A	ND	ug/Kg	11	36	1.0

## Surrogate

Conjugate		% Acceptance	Wavelength (nm)
2,4,6-Tribromophenol	66	%	30 - 130
2-Fluorophenol	65	%	30 - 130
2-Fluorobiphenyl	61	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130
Phenol-d5	68	%	30 - 130
Terphenyl-d14	68	%	30 - 130

### Tentatively Identified Compounds

3-Hexen-2-one	13	T J N	ug/Kg	763-93-9	5.71	1.0
1-Hexanol, 2-ethyl-	28	T J N	ug/Kg	104-76-7	8.08	1.0
1,1"-Biphenyl, 2-fluoro-	10	T J N	ug/Kg	321-60-8	10.40	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	7.7	T J N	ug/Kg	3910-35-8	12.24	1.0
Squalene	55	T J N	ug/Kg	7683-64-9	16.19	1.0
p,p"-Dioctyldiphenylamine	13	T J N	ug/Kg	26603-23-6	16.85	1.0

Method: 8270C LL

**Prep Method:** 3550B

### N-Nitrosodimethylamine

## Surrogate

2,4,6-Tribromophenol	29	X	%	30 - 130
2-Fluorobiphenyl	58		%	30 - 130
2-Fluorophenol	36		%	30 - 130
Nitrobenzene-d5	68		%	30 - 130
Phenol-d5	41		%	30 - 130
Terphenyl-d14	87		%	30 - 130

**Method: 8315A**

Prep Method: 8315\_S\_Prep

## Formaldehyde

### Acetaldehyde

**Method:** LC65

**Prep Method:** LC65

## Phthalic Acid/Phthalic anhydride

Date Analyzed: 09/16/2009 1817

Date Prepared: 09/16/2009 0735

g/Kg 84 110 1.0

g/Kg 31 220 1.0

Date Analyzed: 09/21/2009 0557

Date Prepared: 09/17/2009 0735

g/Kg 19 110 1.0

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

**Client Sample ID:** OC-SB-456-7.0/9.0-XXX  
**Lab Sample ID:** 360-24563-14

Date Sampled: 09/11/2009 0900  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 93

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	67	%		30 - 130	
2-Fluorophenol	63	%		30 - 130	
2-Fluorobiphenyl	56	%		30 - 130	
Nitrobenzene-d5	59	%		30 - 130	
Phenol-d5	66	%		30 - 130	
Terphenyl-d14	68	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
3-Hexen-2-one	13	T J N	ug/Kg	763-93-9	5.71
1-Hexanol, 2-ethyl-	47	T J N	ug/Kg	104-76-7	8.08
1,1"-Biphenyl, 2-fluoro-	12	T J N	ug/Kg	321-60-8	10.40
Squalene	70	T J N	ug/Kg	7683-64-9	16.19
Method: 8270C LL				Date Analyzed:	09/26/2009 1651
Prep Method: 3550B				Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ND		ug/Kg	1.2	5.4
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	62	%		30 - 130	
2-Fluorobiphenyl	51	%		30 - 130	
2-Fluorophenol	53	%		30 - 130	
Nitrobenzene-d5	48	%		30 - 130	
Phenol-d5	59	%		30 - 130	
Terphenyl-d14	72	%		30 - 130	
Method: 8315A				Date Analyzed:	09/16/2009 1829
Prep Method: 8315_S_Prep				Date Prepared:	09/16/2009 0735
Formaldehyde	280		ug/Kg	84	110
Acetaldehyde	ND	UJ	ug/Kg	31	210
Method: LC65				Date Analyzed:	09/21/2009 0610
Prep Method: LC65				Date Prepared:	09/17/2009 0735
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	19	110
Method: 6010B				Date Analyzed:	09/15/2009 1426
Prep Method: 3050B				Date Prepared:	09/15/2009 0908

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

Client Sample ID: OC-SB-457-0.0/1.0-XXX  
 Lab Sample ID: 360-24563-15

Date Sampled: 09/11/2009 1310  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 95

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	100	340	10
N-Nitrosodiphenylamine	ND	ug/Kg	100	340	10
Pentachlorophenol	ND	ug/Kg	100	340	10
Phenanthrene	ND	ug/Kg	100	410	10
Phenol	ND	ug/Kg	100	340	10
Pyrene	ND	ug/Kg	100	340	10
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	71	%		30 - 130	
2-Fluorophenol	78	%		30 - 130	
2-Fluorobiphenyl	79	%		30 - 130	
Nitrobenzene-d5	70	%		30 - 130	
Phenol-d5	79	%		30 - 130	
Terphenyl-d14	88	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Phenol, (1,1,3,3-tetramethylbutyl)-	74	T J N	ug/Kg	27193-28-8	11.63
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	220	T J N	ug/Kg	3910-35-8	12.24
2,4-Diphenyl-4-methyl-2(E)-pentene	160	T J N	ug/Kg	22768-22-5	12.72
Octadecanoic acid, methyl ester	120	T J N	ug/Kg	112-61-8	13.68
Phenanthrene-1-carboxylic acid, 1,2,3,4,	400	T J N	ug/Kg	1000149-68-9	14.74
Nonadecane, 9-methyl-	110	T J N	ug/Kg	13287-24-6	15.00
Nonadecane	130	T J N	ug/Kg	629-92-5	15.34
Docosane	120	T J N	ug/Kg	629-97-0	15.67
1-Octadecene	170	T J N	ug/Kg	112-88-9	15.78
Benzidine	300	J	ug/Kg	92-87-5	13.83
Method: 8270C LL				Date Analyzed:	09/26/2009 0355
Prep Method: 3550B				Date Prepared:	09/18/2009 1122
N-Nitrosodimethylamine	ND	ug/Kg	1.2	5.2	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	58	%		30 - 130	
2-Fluorobiphenyl	64	%		30 - 130	
2-Fluorophenol	39	%		30 - 130	
Nitrobenzene-d5	47	%		30 - 130	
Phenol-d5	49	%		30 - 130	
Terphenyl-d14	100	%		30 - 130	
Method: 8315A				Date Analyzed:	09/16/2009 1904
Prep Method: 8315_S_Prep				Date Prepared:	09/16/2009 0735
Formaldehyde	230	ug/Kg	82	100	1.0
Acetaldehyde	ND <i>u-1</i>	ug/Kg	30	210	1.0

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Job Number: 360-24563-1  
 Sdg Number: OCRI-14

Client Sample ID: OC-SB-457-8.0/10-XXX  
 Lab Sample ID: 360-24563-16

Date Sampled: 09/11/2009 1320  
 Date Received: 09/11/2009 1820  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0

			Acceptance Limits	
2,4,6-Tribromophenol	62	%	30 - 130	
2-Fluorophenol	60	%	30 - 130	
2-Fluorobiphenyl	55	%	30 - 130	
Nitrobenzene-d5	47	%	30 - 130	
Phenol-d5	63	%	30 - 130	
Terphenyl-d14	62	%	30 - 130	

Tentatively Identified Compounds			Cas Number	RT
3-Penten-2-one, 4-methyl-	12	T J N	141-79-7	5.71
Hydrazinecarboxamide, 2-(1-methylethylid	32	T J N	110-20-3	9.90
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	11	T J N	3910-35-8	12.24
2,4-Diphenyl-4-methyl-2(E)-pentene	7.6	T J N	22768-22-5	12.72
Cyclopentadecane	32	T J N	295-48-7	15.07
Erucylamide	45	T J N	112-84-5	16.08
Squalene	110	T J N	7683-64-9	16.19
p,p"-Diocytldiphenylamine	27	T J N	26603-23-6	16.85

Method: 8270C LL  
 Prep Method: 3550B  
 N-Nitrosodimethylamine ND ug/Kg 1.3 5.5 1.0

			Acceptance Limits	
2,4,6-Tribromophenol	35	%	30 - 130	
2-Fluorobiphenyl	56	%	30 - 130	
2-Fluorophenol	39	%	30 - 130	
Nitrobenzene-d5	45	%	30 - 130	
Phenol-d5	43	%	30 - 130	
Terphenyl-d14	99	%	30 - 130	

Method: 8315A  
 Prep Method: 8315\_S\_Prep  
 Formaldehyde 1800 ug/Kg 84 110 1.0  
 Acetaldehyde 100 J ug/Kg 31 220 1.0

Method: LC65  
 Prep Method: LC65 Date Analyzed: 09/21/2009 0701  
 Date Prepared: 09/17/2009 0735

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/31/10

Reviewer: C Ricardi

24582

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

No issues

## 2. Holding Time and Sample Preservation/Collection

Collect 9/14 Prep 9/21 7 day

## 3. QC Blanks EBK-10 - ND

Soil/water MBK-ND

## 4. Laboratory Control Sample Review (80-120%)

All within limits

## 5. Field Duplicate Precision (30/50)

N/A

## 6. Lab Duplicate Precision (20/35)

N/A

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

N/A

## 8. Surrogate Recovery (if applicable)

N/A

## 9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24582-1  
Sdg Number: OCRI-15

**Client Sample ID:** OC-SB-457-28/30-XXX  
**Lab Sample ID:** 360-24582-1

Date Sampled: 09/14/2009 1130  
Date Received: 09/14/2009 1750  
Client Matrix: Solid  
Percent Solids: 78

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodimethylamine	ND	ug/Kg	15	42	1.0
N-Nitrosodi-n-propylamine	ND	ug/Kg	13	42	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	13	42	1.0
Pentachlorophenol	ND	ug/Kg	13	42	1.0
Phenanthrene	ND	ug/Kg	13	51	1.0
Phenol	ND	ug/Kg	13	42	1.0
Pyrene	ND	ug/Kg	13	42	1.0

## Surrogate

Conjugate			
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	64	%	30 - 130
2-Fluorobiphenyl	58	%	30 - 130
Nitrobenzene-d5	64	%	30 - 130
Phenol-d5	58	%	30 - 130
Terphenyl-d14	63	%	30 - 130

### Tentatively Identified Compounds

Hydrazinecarboxamide, 2-(1-methylethylid	11	T J N	ug/Kg	110-20-3	9.89	1.0
Phenol, 2,4-dibromo-	8.7	T J N	ug/Kg	615-58-7	10.54	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	15	T J N	ug/Kg	3910-35-8	12.24	1.0
2,4-Diphenyl-4-methyl-2(E)-pentene	9.2	T J N	ug/Kg	22768-22-5	12.72	1.0
Squalene	140	T J N	ug/Kg	7683-64-9	16.19	1.0
Benzidine	38	J	ug/Kg	92-87-5	13.81	1.0
3-Hexen-2-one	15	T J N	ug/Kg	763-93-9	5.71	1.0
1-Hexanol, 2-ethyl-	18	T J N	ug/Kg	104-76-7	8.09	1.0

Method: 8270C LL

Prep Method: 3550B

#### **N-Nitrosodimethylamine**

## Surrogate

Compound	Retention Time	Conc.	Dilution Factor
2,4,6-Tribromophenol	73	%	30 - 130
2-Fluorobiphenyl	59	%	30 - 130
2-Fluorophenol	57	%	30 - 130
Nitrobenzene-d5	53	%	30 - 130
Phenol-d5	65	%	30 - 130
Terphenyl-d14	95	%	30 - 130

Method: 8315A

Prep Method: 8315 S Prep

**Prep Method:**  
Formaldehyde

Formaldehyde  
Acetaldehyde

**Method:** LC65

Date Analyzed: 09/23/2009 0925

Date Prepared: 09/21/2009 0759

μg/Kg 100

ug/Kg 37

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Job Number: 360-24582-1  
 Sdg Number: OCRI-15

<b>Client Sample ID:</b>	<b>OC-EBK-010</b>	<b>Date Sampled:</b>	09/14/2009 1300
<b>Lab Sample ID:</b>	<b>360-24582-4</b>	<b>Date Received:</b>	09/14/2009 1750
		<b>Client Matrix:</b>	Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	75	%		15 - 110	
2-Fluorobiphenyl	73	%		30 - 130	
2-Fluorophenol	23	%		15 - 110	
Nitrobenzene-d5	81	%		30 - 130	
Phenol-d5	12	X	%	15 - 110	
Terphenyl-d14	91	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Phenol, 2,4-bis(1,1-dimethylethyl)-	0.59	T J N	ug/L	96-76-4	9.84
Diethyltoluamide	1.9	T J N	ug/L	134-62-3	10.17
Benzenesulfonamide, N-ethyl-4-methyl-	0.35	T J N	ug/L	80-39-7	10.76
Benzenesulfonamide, N-butyl-	0.33	T J N	ug/L	3622-84-2	11.01
Pentadecane, 2,6,10-trimethyl-	0.76	T J N	ug/L	3892-0-0	13.72
Eicosane	0.69	T J N	ug/L	112-95-8	14.37
Octacosane	0.77	T J N	ug/L	630-2-4	15.70
Squalene	0.66	T J N	ug/L	7683-64-9	15.81
Tricosane	0.61	T J N	ug/L	638-67-5	16.17
Benzidine	0.69	J *	ug/L	92-87-5	12.28
<b>Method: 8315A</b>			Date Analyzed:	09/18/2009 1517	
<b>Prep Method: 8315_W_Prep</b>			Date Prepared:	09/17/2009 1134	
Formaldehyde	ND		ug/L	5.0	50
Acetaldehyde	ND		ug/L	10	100
<b>Method: LC65</b>			Date Analyzed:	09/21/2009 0203	
<b>Prep Method: LC65</b>			Date Prepared:	09/17/2009 1115	
Phthalic Acid/Phthalic anhydride	ND	*	ug/L	1.4	10
<b>Method: 6010B</b>			Date Analyzed:	09/15/2009 1231	
<b>Prep Method: 3010A</b>			Date Prepared:	09/15/2009 0835	
Aluminum	ND		ug/L	39	100
Antimony	ND		ug/L	2.9	6.0
Barium	ND		ug/L	2.0	10
Arsenic	ND		ug/L	2.3	10
Beryllium	ND		ug/L	0.20	1.0
Cadmium	ND		ug/L	0.20	1.0
Calcium	78	J	ug/L	59	400
Chromium	ND		ug/L	1.3	5.0
Cobalt	ND		ug/L	2.0	10
Copper	29		ug/L	1.7	10
Iron	110		ug/L	34	100
Lead	ND		ug/L	1.3	5.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 9/31/10

Reviewer: C Ricardi

24634

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

No Issues

2. Holding Time and Sample Preservation/Collection

Collect 9/15 Prep 9/21 6 day  
9/16 5 day

3. QC Blanks

EBK-71

Soil/H<sub>2</sub>O MBR - ND

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

N/A

6. Lab Duplicate Precision (20/35)

N/A

7. Matrix Spike Results (if applicable) 75-125% (20/30)

SS-420 0.0/1.0

Acetaldehyde 63-63 %  
5/05

8. Surrogate Recovery (if applicable)

N/A

9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

Client Sample ID:	OC-SS-420-0.0/1.0-XXX	Date Sampled:	09/15/2009 1525
Lab Sample ID:	360-24634-4	Date Received:	09/16/2009 1620
		Client Matrix:	Solid
		Percent Solids:	88

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	13 J	ug/Kg	11	37	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	78	%		30 - 130	
2-Fluorophenol	77	%		30 - 130	
2-Fluorobiphenyl	59	%		30 - 130	
Nitrobenzene-d5	60	%		30 - 130	
Phenol-d5	62	%		30 - 130	
Terphenyl-d14	70	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
1-Octadecene	12	T J N	112-88-9	12.00	1.0
Benzene, 1-methoxy-3-(2-phenylethenyl)-	63	T J N	14064-41-6	12.08	1.0
1-Heneicosyl formate	38	T J N	77899-3-7	12.73	1.0
1-Hexacosanol	55	T J N	506-52-5	13.76	1.0
N-Nitrosodiphenylamine	26 J	ug/Kg	11	37	1.0
Method: 8270C LL Run Type: RA			Date Analyzed:	10/08/2009 1252	
Prep Method: 3546			Date Prepared:	09/23/2009 1139	
Diphenylamine	14	J	ug/Kg	11	37
Method: 8270C LL Run Type: RA2			Date Analyzed:	10/08/2009 1252	
Prep Method: 3546			Date Prepared:	09/23/2009 1139	
N-Nitrosodiphenylamine	13 J	ug/Kg	11	37	1.0
Method: 8270C LL			Date Analyzed:	09/26/2009 1902	
Prep Method: 3550B			Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.6	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	75	%		30 - 130	
2-Fluorobiphenyl	60	%		30 - 130	
2-Fluorophenol	54	%		30 - 130	
Nitrobenzene-d5	57	%		30 - 130	
Phenol-d5	64	%		30 - 130	
Terphenyl-d14	84	%		30 - 130	
Method: 8315A			Date Analyzed:	09/23/2009 0937	
Prep Method: 8315_S_Prep			Date Prepared:	09/21/2009 0759	
Formaldehyde	ND	ug/Kg	88	110	1.0
Acetaldehyde	ND <i>WS</i>	ug/Kg	33	230	1.0

*CH*

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

**Client Sample ID:** OC-SS-422-0.0/1.0-XXX  
**Lab Sample ID:** 360-24634-6

Date Sampled: 09/15/2009 1630  
 Date Received: 09/16/2009 1620  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 1012	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/21/2009 0759	
Formaldehyde	96	J ug/Kg	92	120	1.0
Acetaldehyde	ND	ug/Kg	34	240	1.0
<b>Method:</b> LC65			Date Analyzed:	09/24/2009 1557	
<b>Prep Method:</b> LC65			Date Prepared:	09/21/2009 0805	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/21/2009 1657	
<b>Prep Method:</b> 3050B			Date Prepared:	09/21/2009 0802	
Aluminum	7400	mg/Kg	1.0	3.9	1.0
Antimony	ND	mg/Kg	0.28	0.77	1.0
Arsenic	5.6	mg/Kg	0.14	1.5	1.0
Barium	81	mg/Kg	0.10	0.77	1.0
Beryllium	0.27	J mg/Kg	0.039	0.31	1.0
Cadmium	0.26	J mg/Kg	0.011	0.31	1.0
Chromium	36	B mg/Kg	0.10	0.77	1.0
Cobalt	3.5	mg/Kg	0.10	0.77	1.0
Copper	7.8	mg/Kg	0.10	1.5	1.0
Iron	8800	B mg/Kg	1.2	7.7	1.0
Lead	6.0	mg/Kg	0.088	0.77	1.0
Magnesium	2600	B mg/Kg	0.77	15	1.0
Manganese	120	mg/Kg	0.10	1.5	1.0
Nickel	7.9	mg/Kg	0.10	1.5	1.0
Potassium	1500	mg/Kg	48	310	1.0
Selenium	ND	mg/Kg	0.36	0.77	1.0
Silver	0.35	J mg/Kg	0.078	0.77	1.0
Sodium	440	mg/Kg	20	150	1.0
Thallium	ND	mg/Kg	0.11	1.5	1.0
Vanadium	12	mg/Kg	0.10	1.5	1.0
Zinc	17	mg/Kg	0.91	3.9	1.0
Tin	14	^ B mg/Kg	0.49	7.7	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/22/2009 1700	
<b>Prep Method:</b> 3050B			Date Prepared:	09/21/2009 0802	
Calcium	33000	mg/Kg	7.7	31	2.0
<b>Method:</b> 7471A			Date Analyzed:	09/18/2009 1427	
<b>Prep Method:</b> 7471A			Date Prepared:	09/17/2009 1603	
Mercury	ND	mg/Kg	0.030	0.16	1.0

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

**Client Sample ID:** OC-SS-424-0.0/1.0-XXX  
**Lab Sample ID:** 360-24634-8

Date Sampled: 09/15/2009 1720  
 Date Received: 09/16/2009 1620  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 1024	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/21/2009 0759	
Formaldehyde	ND	ug/Kg	90	110	1.0
Acetaldehyde	ND	ug/Kg	33	230	1.0
<b>Method:</b> LC65			Date Analyzed:	09/24/2009 1606	
<b>Prep Method:</b> LC65			Date Prepared:	09/21/2009 0805	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	20	110	1.0
<b>Method:</b> 6010B			Date Analyzed:	09/21/2009 1703	
<b>Prep Method:</b> 3050B			Date Prepared:	09/21/2009 0802	
Aluminum	6200	mg/Kg	0.84	3.2	1.0
Antimony	ND	mg/Kg	0.23	0.65	1.0
Arsenic	7.5	mg/Kg	0.12	1.3	1.0
Barium	34	mg/Kg	0.084	0.65	1.0
Beryllium	0.33	mg/Kg	0.032	0.26	1.0
Cadmium	0.26	mg/Kg	0.0090	0.26	1.0
Calcium	14000	B	mg/Kg	3.2	1.0
Chromium	55	B	mg/Kg	0.086	0.65
Cobalt	3.8	mg/Kg	0.084	0.65	1.0
Copper	7.9	mg/Kg	0.084	1.3	1.0
Iron	9100	B	mg/Kg	1.0	6.5
Lead	6.3	mg/Kg	0.074	0.65	1.0
Magnesium	1900	B	mg/Kg	0.65	13
Manganese	100	mg/Kg	0.086	1.3	1.0
Nickel	10	mg/Kg	0.084	1.3	1.0
Potassium	1100	mg/Kg	40	260	1.0
Selenium	ND	mg/Kg	0.30	0.65	1.0
Silver	0.76	mg/Kg	0.065	0.65	1.0
Sodium	62	J	mg/Kg	17	130
Thallium	ND	mg/Kg	0.093	1.3	1.0
Vanadium	12	mg/Kg	0.084	1.3	1.0
Zinc	20	mg/Kg	0.76	3.2	1.0
Tin	22	^ B	mg/Kg	0.41	6.5
<b>Method:</b> 7471A			Date Analyzed:	09/18/2009 1430	
<b>Prep Method:</b> 7471A			Date Prepared:	09/17/2009 1603	
Mercury	ND	mg/Kg	0.039	0.21	1.0

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Job Number: 360-24634-1  
Sdg Number: OCRI-16

**Client Sample ID:** OC-SS-427-0.0/1.0-XXX  
**Lab Sample ID:** 360-24634-11

Date Sampled: 09/16/2009 0940  
Date Received: 09/16/2009 1620  
Client Matrix: Solid  
Percent Solids: 82

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Biphenol	18	ug/Kg	12	39	1.0

## Surrogate

Conjugate		Acceptance Limit
2,4,6-Tribromophenol	58	%
2-Fluorophenol	60	%
2-Fluorobiphenyl	48	%
Nitrobenzene-d5	48	%
Phenol-d5	52	%
Terphenyl-d14	60	%

### Tentatively Identified Compounds

Benzeneacetic acid	150	T J N	ug/Kg	103-82-2	8.05	1.0
Tetradecanoic acid	120	T J N	ug/Kg	544-63-8	10.24	1.0
Eicosane	85	T J N	ug/Kg	112-95-8	11.40	1.0
1-Octadecene	610	T J N	ug/Kg	112-88-9	12.00	1.0
1-Octadecanethiol	150	T J N	ug/Kg	2885-0-9	12.35	1.0
17-Octadecenal	140	T J N	ug/Kg	56554-86-0	12.48	1.0
1-Docosene	2200	T J N	ug/Kg	1599-67-3	12.74	1.0
1-Hexacosene	270	T J N	ug/Kg	18835-33-1	13.20	1.0
1,21-Docosadiene	200	T J N	ug/Kg	53057-53-7	13.40	1.0
Cyclotetracosane	3900	T J N	ug/Kg	297-3-0	13.79	1.0

**Method:** 8270C LL

Date Analyzed: 09/26/2009 2039

Prep Method: 3550B

Date Prepared: 09/22/2009 1155

#### N-Nitrosodimethylamine

ug/Kg 1.4 6.0 1.0

## Surrogate

2,4,6-Tribromophenol	60	%	30 - 130
2-Fluorobiphenyl	48	%	30 - 130
2-Fluorophenol	41	%	30 - 130
Nitrobenzene-d5	49	%	30 - 130
Phenol-d5	45	%	30 - 130
Terphenyl-d14	55	%	30 - 130

Method: 8315A

Date Analyzed: 09/23/2009 1036

**Prep Method:** 8315 S Prep

Date Prepared: 09/21/2009 0759

### Formaldehyde

$\mu\text{g}/\text{Kg}$  : 94 120 1.0

### Acetaldehyde

$\mu\text{g}/\text{Kg}$  35 240 1.0

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

**Client Sample ID:** OC-SS-429-0.0/1.0-XXX  
**Lab Sample ID:** 360-24634-13

Date Sampled: 09/16/2009 1025  
 Date Received: 09/16/2009 1620  
 Client Matrix: Solid  
 Percent Solids: 83

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	47	ug/Kg	12	39	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	21	X	%	30 - 130	
2-Fluorophenol	84		%	30 - 130	
2-Fluorobiphenyl	53		%	30 - 130	
Nitrobenzene-d5	73		%	30 - 130	
Phenol-d5	76		%	30 - 130	
Terphenyl-d14	75		%	30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Cyclohexadecane, 1,2-diethyl-	77	T J N	ug/Kg	1000155-85-3	12.01
1-Eicosene	390	T J N	ug/Kg	3452-7-1	12.74
1-Docosanol, acetate	400	T J N	ug/Kg	822-26-4	13.78
N-Nitrosodiphenylamine	23	J	ug/Kg	12	39
<b>Method:</b> 8270C LL <b>Run Type:</b> RA				Date Analyzed:	10/08/2009 1414
<b>Prep Method:</b> 3546				Date Prepared:	09/23/2009 1139
Diphenylamine	ND		ug/Kg	12	39
<b>Method:</b> 8270C LL <b>Run Type:</b> RA2				Date Analyzed:	10/08/2009 1414
<b>Prep Method:</b> 3546				Date Prepared:	09/23/2009 1139
N-Nitrosodiphenylamine	12	J	ug/Kg	12	39
<b>Method:</b> 8270C LL				Date Analyzed:	09/26/2009 2112
<b>Prep Method:</b> 3550B				Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ND		ug/Kg	1.4	6.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	55		%	30 - 130	
2-Fluorobiphenyl	57		%	30 - 130	
2-Fluorophenol	53		%	30 - 130	
Nitrobenzene-d5	55		%	30 - 130	
Phenol-d5	61		%	30 - 130	
Terphenyl-d14	58		%	30 - 130	
<b>Method:</b> 8315A				Date Analyzed:	09/23/2009 1048
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/21/2009 0759
Formaldehyde	170		ug/Kg	95	120
Acetaldehyde	ND		ug/Kg	35	240
<b>Method:</b> LC65				Date Analyzed:	09/24/2009 1624

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

**Client Sample ID:** OC-SS-431-0.0/1.0-XXX  
**Lab Sample ID:** 360-24634-15

Date Sampled: 09/16/2009 1135  
 Date Received: 09/16/2009 1620  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	70	%	30 - 130		
2-Fluorobiphenyl	49	%	30 - 130		
2-Fluorophenol	47	%	30 - 130		
Nitrobenzene-d5	54	%	30 - 130		
Phenol-d5	57	%	30 - 130		
Terphenyl-d14	56	%	30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 1059	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/21/2009 0759	
Formaldehyde	100	J	ug/Kg	88	110
Acetaldehyde	ND		ug/Kg	33	230
<b>Method:</b> LC65			Date Analyzed:	09/24/2009 1633	
<b>Prep Method:</b> LC65			Date Prepared:	09/21/2009 0805	
Phthalic Acid/Phthalic anhydride	ND		ug/Kg	20	110
<b>Method:</b> 6010B			Date Analyzed:	09/21/2009 1723	
<b>Prep Method:</b> 3050B			Date Prepared:	09/21/2009 0802	
Aluminum	7800		mg/Kg	0.84	3.2
Antimony	ND		mg/Kg	0.23	0.65
Arsenic	8.4		mg/Kg	0.12	1.3
Barium	42		mg/Kg	0.084	0.65
Beryllium	0.29		mg/Kg	0.032	0.26
Cadmium	0.79		mg/Kg	0.0091	0.26
Calcium	13000	B	mg/Kg	3.2	13
Chromium	59	B	mg/Kg	0.086	0.65
Cobalt	4.2		mg/Kg	0.084	0.65
Copper	9.3		mg/Kg	0.084	1.3
Iron	10000	B	mg/Kg	1.0	6.5
Lead	7.1		mg/Kg	0.074	0.65
Magnesium	2700	B	mg/Kg	0.65	13
Manganese	140		mg/Kg	0.087	1.3
Nickel	10		mg/Kg	0.084	1.3
Potassium	1100		mg/Kg	41	260
Selenium	ND		mg/Kg	0.30	0.65
Silver	0.70		mg/Kg	0.065	0.65
Sodium	63	J	mg/Kg	17	130
Thallium	ND		mg/Kg	0.094	1.3
Vanadium	14		mg/Kg	0.084	1.3
Zinc	21		mg/Kg	0.76	3.2
Tin	24	^ B	mg/Kg	0.41	6.5

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Job Number: 360-24634-1  
 Sdg Number: OCRI-16

Client Sample ID: OC-EBK-011  
 Lab Sample ID: 360-24634-18

Date Sampled: 09/16/2009 0835  
 Date Received: 09/16/2009 1620  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Diphenylamine	ND	ug/L	0.51	5.1	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	71	%		15 - 110	
2-Fluorobiphenyl	63	%		30 - 130	
2-Fluorophenol	21	%		15 - 110	
Nitrobenzene-d5	61	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
Terphenyl-d14	74	%		30 - 130	
2,4,6-Tribromophenol	71	%		15 - 110	
2-Fluorobiphenyl	63	%		30 - 130	
2-Fluorophenol	21	%		15 - 110	
Nitrobenzene-d5	61	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
Terphenyl-d14	74	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Benzothiazole	0.78	T J N	95-16-9	7.30	1.0
Diethyltoluamide	2.8	T J N	134-62-3	8.88	1.0
Benzothiazole, 2-(methylthio)-	4.3	T J N	615-22-5	9.05	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	3.9	T J N	3910-35-8	9.45	1.0
3,5-di-tert-Butyl-4-hydroxyacetophenone	0.54	T J N	14035-33-7	9.77	1.0
2,4-Diphenyl-4-methyl-2(E)-pentene	3.3	T J N	22768-22-5	9.87	1.0
Hexadecanoic acid, methyl ester	0.95	T J N	112-39-0	10.14	1.0
2-Mercaptobenzothiazole	1.4	T J N	149-30-4	10.36	1.0
<b>Method: 8315A</b>			Date Analyzed:	09/18/2009 1506	
<b>Prep Method: 8315_W_Prep</b>			Date Prepared:	09/17/2009 1134	
Formaldehyde	ND	ug/L	5.0	50	1.0
Acetaldehyde	ND	ug/L	10	100	1.0
<b>Method: LC65</b>			Date Analyzed:	09/23/2009 2042	
<b>Prep Method: LC65</b>			Date Prepared:	09/22/2009 0844	
Phthalic Acid/Phthalic anhydride	ND	ug/L	1.4	10	1.0
<b>Method: 6010B</b>			Date Analyzed:	09/17/2009 1232	
<b>Prep Method: 3010A</b>			Date Prepared:	09/17/2009 0752	
Aluminum	ND	ug/L	39	100	1.0
Antimony	ND	ug/L	2.9	6.0	1.0
Barium	ND	ug/L	2.0	10	1.0
Arsenic	ND	ug/L	2.3	10	1.0
Beryllium	ND	ug/L	0.20	1.0	1.0
Cadmium	ND	ug/L	0.20	1.0	1.0

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24665  
Date: 3/31/10      Reviewer: C Ricardi

Chemist Review    Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

✓ w Acetaldehyde MS recovery

## 2. Holding Time and Sample Preservation/Collection

Collect 9/16 Prep 9/23 7/day

## 3. QC Blanks

Soil MBK - ND

## 4. Laboratory Control Sample Review (80-120%)

Within limits

## 5. Field Duplicate Precision (30/50)

NA

## 6. Lab Duplicate Precision (20/35)

NA

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24665-1 SS 434 0.01,0 Form 5657 > 15  
Act 26-26

## 8. Surrogate Recovery (if applicable)

NA

## 9. Internal Standard Recovery (if applicable)

NA

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-434-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-1

Date Sampled: 09/16/2009 1615  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 83

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0	
Pentachlorophenol	ND	ug/Kg	12	40	1.0	
Phenanthrene	ND	ug/Kg	12	48	1.0	
Phenol	ND	ug/Kg	12	40	1.0	
Pyrene	ND	ug/Kg	12	40	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	50	%		30 - 130		
2-Fluorophenol	53	%		30 - 130		
2-Fluorobiphenyl	41	%		30 - 130		
Nitrobenzene-d5	43	%		30 - 130		
Phenol-d5	41	%		30 - 130		
Terphenyl-d14	49	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
1-Eicosanol	2600	T J N	ug/Kg	629-96-9	12.11	1.0
1-Docosene	4300	T J N	ug/Kg	1599-67-3	12.87	1.0
1,19-Eicosadiene	700	T J N	ug/Kg	14811-95-1	13.56	1.0
Heptadecane, 2-methyl-	3900	T J N	ug/Kg	1560-89-0	13.95	1.0
(Z)14-Tricosenyl formate	1200	T J N	ug/Kg	77899-10-6	15.02	1.0
Triaccontane	2200	T J N	ug/Kg	638-68-6	15.38	1.0
1,19-Eicosadiene	900	T J N	ug/Kg	14811-95-1	16.01	1.0
Docosane, 5-butyl-	460	T J N	ug/Kg	55282-16-1	16.23	1.0
gamma.-Sitosterol	670	T J N	ug/Kg	83-47-6	16.38	1.0
2,4a,8,8-Tetramethyldecahydrocyclopropa[	1400	T J N	ug/Kg	74022-4-1	17.58	1.0
<b>Method:</b> 8270C LL				Date Analyzed:	09/26/2009 2217	
<b>Prep Method:</b> 3550B				Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	1.4		6.0	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	77	%		30 - 130		
2-Fluorobiphenyl	58	%		30 - 130		
2-Fluorophenol	54	%		30 - 130		
Nitrobenzene-d5	60	%		30 - 130		
Phenol-d5	60	%		30 - 130		
Terphenyl-d14	66	%		30 - 130		
<b>Method:</b> 8315A				Date Analyzed:	09/23/2009 1852	
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/23/2009 0750	
Formaldehyde	110	J	ug/Kg	93	120	1.0
Acetaldehyde	ND	VJ	ug/Kg	35	240	1.0

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Job Number: 360-24665-1  
Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-440-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-5

Date Sampled: 09/16/2009 1345  
Date Received: 09/17/2009 1630  
Client Matrix: Solid  
Percent Solids: 55

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	18	61	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	18	61	1.0
Pentachlorophenol	ND	ug/Kg	18	61	1.0
Phenanthrene	ND	ug/Kg	18	73	1.0
Phenol	ND	ug/Kg	18	61	1.0
Pyrene	ND	ug/Kg	18	61	1.0

## Surrogate

2,4,6-Tribromophenol	50	%	30 - 130
2-Fluorophenol	62	%	30 - 130
2-Fluorobiphenyl	46	%	30 - 130
Nitrobenzene-d5	48	%	30 - 130
Phenol-d5	49	%	30 - 130
Terphenyl-d14	43	%	30 - 130

### Tentatively Identified Compounds

Cyclic octaatomic sulfur	110	T J N	ug/Kg	10544-50-0	11.20	1.0
9,10-Anthracenedione, 1,8-dihydroxy-3-me	200	T J N	ug/Kg	481-74-3	11.94	1.0
1-Dotriacontanol	440	T J N	ug/Kg	6624-79-9	12.28	1.0
Octadecane	160	T J N	ug/Kg	593-45-3	12.66	1.0
Cyclodocosane, ethyl-	720	T J N	ug/Kg	1000151-22-6	13.10	1.0
Dotriacontane	150	T J N	ug/Kg	544-85-4	13.64	1.0
Squalene	150	T J N	ug/Kg	7683-64-9	13.75	1.0
Heptadecane, 9-hexyl-	950	T J N	ug/Kg	55124-79-3	14.31	1.0
Hexadecane	350	T J N	ug/Kg	544-76-3	15.64	1.0
gamma.-Sitosterol	160	T J N	ug/Kg	83-47-6	16.67	1.0

Method: 8270C LL

Prep Method: 3550B

#### N-Nitrosodimethylamine

Date Analyzed: 09/27/2009 0237

Date Prepared: 09/22/2009 1155

ug/Kg 2.1 9.1 1.0

## Surrogate

2,4,6-Tribromophenol	76	%	30 - 130
2-Fluorobiphenyl	59	%	30 - 130
2-Fluorophenol	50	%	30 - 130
Nitrobenzene-d5	63	%	30 - 130
Phenol-d5	58	%	30 - 130
Terphenyl-d14	74	%	30 - 130

**Method:** 8315A

Prep Method: 8315 S Prep

## Formaldehyde

### Acetaldehyde

Date Analyzed: 09/23/2009 1940

Date Prepared: 09/23/2009 0750

ug/Kg 140 180 1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

Client Sample ID: OC-SS-450-0.0/1.0-XXX  
 Lab Sample ID: 360-24665-8

Date Sampled: 09/16/2009 1555  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 65

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	15	50	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	15	50	1.0	
Pentachlorophenol	ND	ug/Kg	15	50	1.0	
Phenanthrene	35 J	ug/Kg	15	59	1.0	
Phenol	ND	ug/Kg	15	50	1.0	
Pyrene	49 J	ug/Kg	15	50	1.0	
Acceptance Limits						
2,4,6-Tribromophenol	51	%		30 - 130		
2-Fluorophenol	68	%		30 - 130		
2-Fluorobiphenyl	50	%		30 - 130		
Nitrobenzene-d5	51	%		30 - 130		
Phenol-d5	53	%		30 - 130		
Terphenyl-d14	60	%		30 - 130		
Tentatively Identified Compounds						
Benzoic acid, 4-hydroxy-3-methoxy-	180	T J N	ug/Kg	121-34-6	9.20	1.0
1-Heneicosyl formate	1400	T J N	ug/Kg	77899-3-7	12.29	1.0
1-Octadecanethiol	200	T J N	ug/Kg	2885-0-9	12.66	1.0
1-Docosene	2800	T J N	ug/Kg	1599-67-3	13.12	1.0
Triacontane	190	T J N	ug/Kg	638-68-6	13.65	1.0
Octacosane	3000	T J N	ug/Kg	630-2-4	14.34	1.0
Bicyclo[10.8.0]eicosane, (E)-	1200	T J N	ug/Kg	1000155-85-0	15.38	1.0
Dotriacontane	1500	T J N	ug/Kg	544-85-4	15.66	1.0
2-Nonadecanone	210	T J N	ug/Kg	629-66-3	15.75	1.0
1-Eicosanol	280	T J N	ug/Kg	629-96-9	16.55	1.0
<b>Method:</b> 8270C LL			Date Analyzed:	09/27/2009 0309		
<b>Prep Method:</b> 3550B			Date Prepared:	09/22/2009 1155		
N-Nitrosodimethylamine	ND	ug/Kg	1.8	7.6	1.0	
Acceptance Limits						
2,4,6-Tribromophenol	70	%		30 - 130		
2-Fluorobiphenyl	55	%		30 - 130		
2-Fluorophenol	54	%		30 - 130		
Nitrobenzene-d5	61	%		30 - 130		
Phenol-d5	56	%		30 - 130		
Terphenyl-d14	62	%		30 - 130		
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 1951		
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/23/2009 0750		
Formaldehyde	350	ug/Kg	120	150	1.0	
Acetaldehyde	ND	ug/Kg	44	300	1.0	

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-455-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-11

Date Sampled: 09/16/2009 1750  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	16 J	ug/Kg	12	39	1.0

			Acceptance Limits		
2,4,6-Tribromophenol	42	%		30 - 130	
2-Fluorophenol	62	%		30 - 130	
2-Fluorobiphenyl	43	%		30 - 130	
Nitrobenzene-d5	45	%		30 - 130	
Phenol-d5	48	%		30 - 130	
Terphenyl-d14	61	%		30 - 130	

Tentatively Identified Compounds			Cas Number	RT	
Cyclohexadecane, 1,2-diethyl-	420	T J N	1000155-85-3	11.67	1.0
1-Docosene	3500	T J N	1599-67-3	12.29	1.0
1-Dotriacontanol	420	T J N	6624-79-9	12.66	1.0
1,21-Docosadiene	260	T J N	53057-53-7	12.82	1.0
Cyclotetacosane	5900	T J N	297-3-0	13.14	1.0
13-Octadecenal	21	T J N	56554-90-6	15.38	1.0
Hexatriacontane	22	T J N	630-6-8	15.66	1.0

<b>Method:</b> 8270C LL		Date Analyzed:	09/26/2009 2249	
<b>Prep Method:</b> 3550B		Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9

			Acceptance Limits		
2,4,6-Tribromophenol	70	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
2-Fluorophenol	52	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	54	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	

<b>Method:</b> 8315A		Date Analyzed:	09/23/2009 2003	
<b>Prep Method:</b> 8315_S_Prep		Date Prepared:	09/23/2009 0750	
Formaldehyde	220	ug/Kg	91	120
Acetaldehyde	ND	ug/Kg	34	230

<b>Method:</b> LC65		Date Analyzed:	09/24/2009 1821	
<b>Prep Method:</b> LC65		Date Prepared:	09/23/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-460-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-12

Date Sampled: 09/16/2009 1730  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0	
Pentachlorophenol	ND	ug/Kg	12	39	1.0	
Phenanthrene	14	J	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0	
Pyrene	29	J	ug/Kg	12	39	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	42	%	30 - 130
2-Fluorophenol	59	%	30 - 130
2-Fluorobiphenyl	40	%	30 - 130
Nitrobenzene-d5	43	%	30 - 130
Phenol-d5	45	%	30 - 130
Terphenyl-d14	61	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1-Octadecene	430	T J N	112-88-9	11.67
Tricosane	260	T J N	638-67-5	11.69
Heptadecane, 9-octyl-	260	T J N	7225-64-1	11.97
1-Docosene	3000	T J N	1599-67-3	12.30
Ethanol, 2-(tetradecyloxy)-	430	T J N	2136-70-1	12.67
1,21-Docosadiene	500	T J N	53057-53-7	12.83
Cyclotetraspane	7300	T J N	297-3-0	13.15
Oxirane, hexadecyl-	36	T J N	7390-81-0	15.39
Hexatriacontane	25	T J N	630-6-8	15.66
Friedelin	260	T J N	559-74-0	18.10

<b>Method:</b> 8270C LL	Date Analyzed:	09/26/2009 2322
<b>Prep Method:</b> 3550B	Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ug/Kg	1.4

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	59	%	30 - 130
2-Fluorobiphenyl	46	%	30 - 130
2-Fluorophenol	39	%	30 - 130
Nitrobenzene-d5	52	%	30 - 130
Phenol-d5	45	%	30 - 130
Terphenyl-d14	57	%	30 - 130

<b>Method:</b> 8315A	Date Analyzed:	09/23/2009 2015
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/23/2009 0750
Formaldehyde	220	ug/Kg
Acetaldehyde	ND	ug/Kg

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SB-413-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-16

Date Sampled: 09/17/2009 1110  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 73

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Formaldehyde	260	ug/Kg	110	140	1.0
Acetaldehyde	44 J	ug/Kg	39	270	1.0
<b>Method:</b> LC65		Date Analyzed:	09/24/2009 1846		
<b>Prep Method:</b> LC65		Date Prepared:	09/23/2009 0735		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	24	130	1.0
<b>Method:</b> 6010B		Date Analyzed:	09/25/2009 1513		
<b>Prep Method:</b> 3050B		Date Prepared:	09/25/2009 0824		
Aluminum	17000	mg/Kg	1.9	7.4	2.0
Antimony	ND	mg/Kg	0.53	1.5	2.0
Arsenic	5.2	mg/Kg	0.27	2.9	2.0
Barium	6.9	mg/Kg	0.19	1.5	2.0
Beryllium	0.27 J	mg/Kg	0.074	0.59	2.0
Cadmium	0.14 J	mg/Kg	0.021	0.59	2.0
Calcium	330 B	mg/Kg	7.4	29	2.0
Chromium	10	mg/Kg	0.20	1.5	2.0
Cobalt	1.1 J	mg/Kg	0.19	1.5	2.0
Copper	5.2	mg/Kg	0.19	2.9	2.0
Iron	7200 B	mg/Kg	2.3	15	2.0
Lead	13	mg/Kg	0.17	1.5	2.0
Magnesium	290 B	mg/Kg	1.5	29	2.0
Manganese	14	mg/Kg	0.20	2.9	2.0
Nickel	3.2	mg/Kg	0.19	2.9	2.0
Potassium	230 J	mg/Kg	92	590	2.0
Selenium	ND	mg/Kg	0.69	1.5	2.0
Silver	ND	mg/Kg	0.15	1.5	2.0
Sodium	ND	mg/Kg	38	290	2.0
Thallium	ND	mg/Kg	0.21	2.9	2.0
Vanadium	18	mg/Kg	0.19	2.9	2.0
Zinc	6.7 J	mg/Kg	1.7	7.4	2.0
Tin	4.1 J ^ B	mg/Kg	0.94	15	2.0
<b>Method:</b> 7471A		Date Analyzed:	09/23/2009 0955		
<b>Prep Method:</b> 7471A		Date Prepared:	09/22/2009 0905		
Mercury	ND	mg/Kg	0.037	0.20	1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SB-413-1.0/5.0-XXX  
**Lab Sample ID:** 360-24665-17

Date Sampled: 09/17/2009 1020  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0

	Acceptance Limits		
2,4,6-Tribromophenol	69	%	30 - 130
2-Fluorophenol	76	%	30 - 130
2-Fluorobiphenyl	58	%	30 - 130
Nitrobenzene-d5	57	%	30 - 130
Phenol-d5	55	%	30 - 130
Terphenyl-d14	86	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1R-,alpha.-Pinene	23	T J N	ug/Kg	7785-70-8
Butylated Hydroxytoluene	33	T J N	ug/Kg	128-37-0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	25	T J N	ug/Kg	3910-35-8
Pentadecanoic acid, 14-methyl-, methyl e	22	T J N	ug/Kg	5129-60-2
1-Heptadecanol	42	T J N	ug/Kg	1454-85-9
1-Hexacosene	230	T J N	ug/Kg	18835-33-1
1-Dotriacontanol	250	T J N	ug/Kg	6624-79-9
Squalene	50	T J N	ug/Kg	7683-64-9

<b>Method:</b> 8270C LL	Date Analyzed:	09/27/2009 0132
<b>Prep Method:</b> 3550B	Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ND	ug/Kg

Surrogate		Acceptance Limits		
2,4,6-Tribromophenol	75	%	30 - 130	
2-Fluorobiphenyl	56	%	30 - 130	
2-Fluorophenol	53	%	30 - 130	
Nitrobenzene-d5	55	%	30 - 130	
Phenol-d5	58	%	30 - 130	
Terphenyl-d14	78	%	30 - 130	

<b>Method:</b> 8315A	Date Analyzed:	09/23/2009 2039
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/23/2009 0750
Formaldehyde	340	ug/Kg
Acetaldehyde	38	J ug/Kg

<b>Method:</b> LC65	Date Analyzed:	09/24/2009 1859
<b>Prep Method:</b> LC65	Date Prepared:	09/23/2009 0735

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Job Number: 360-24665-1  
Sdg Number: OCRI-17

Client Sample ID: OC-SB-413-10/12-XXX  
Lab Sample ID: 360-24665-18

Date Sampled: 09/17/2009 1050  
Date Received: 09/17/2009 1630  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8315A			Date Analyzed:	09/23/2009 2050	
Prep Method: 8315_S_Prep			Date Prepared:	09/23/2009 0750	
Formaldehyde	120	ug/Kg	86	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0

# CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/19/10

Reviewer: C Ricardi

Chemist Review  Full Validation (add page 2)

## 1. Case Narrative and Data Package Completeness (COC Review)

- Formaldehyde in MBK aqueous
- MS/MSD Low 24686-7

## 2. Holding Time and Sample Preservation/Collection

Collected 9/17 and 9/18  
Prep 9/24 Analysis 9/24

## 3. QC Blanks

MBK - Water 11.9 J EBK - Formaldehyde 12 J Area 102515  
Soil MBK <78 Area 103450 (EBK)

## 4. Laboratory Control Sample Review (80-120%)

Within limits

## 5. Field Duplicate Precision (30/50)

N/A

## 6. Lab Duplicate Precision (20/35)

N/A

## 7. Matrix Spike Results (if applicable) 75-125% (20/30)

24686-7 SB-473 0.0/1.0

Form 23-26%  
Act 12-14%

## 8. Surrogate Recovery (if applicable)

N/A

## 9. Internal Standard Recovery (if applicable)

N/A

# CHEMIST REVIEW-VALIDATION CHECKLIST

## FULL VALIDATION CHECKS

Ten Percent of data sets will have full validation checks completed during chemist review.

Initial Calibration

Continuing Calibration Verification

### Transcription and Calculation Checks

Instrument Calibration

Blank Review – raw data/chromatogram check

Laboratory Control Sample

Matrix Spike

Field Sample Results

Possible % moisture errors on samples

SB-435 0/1

SB 453 0/1

Surrogate Recovery

NA

Date	Conc	Area	Concentration
9/22/2009	CCV	2237454	12.5
	MBK	ND	
	LCS	674798	3.9
	MS	371927	2.3
	SB-435-0.0/1.0-X	186793	1.3
	SB-435-11/15-X	191203	1.3
	SB-435-6/10-X	171159	1.2

\* observed higher concentrations  
 based on Excel Regression -  
 But close enough to confirm  
 data processor calc.

CH

0.5	154846	309692
1.25	297521	238016.8
2.5	506176	202470.4
12.5	2283056	182644.5
25	4663210	186528.4

↙ RRF

Non-linear response at  
low end.

High bias at low end

223870.4  
Avg RF

## SUMMARY OUTPUT

### Regression Statistics

Multiple R	0.999837
R Square	0.999674
Adjusted R	0.999565
Standard E	0.218975
Observatio	5

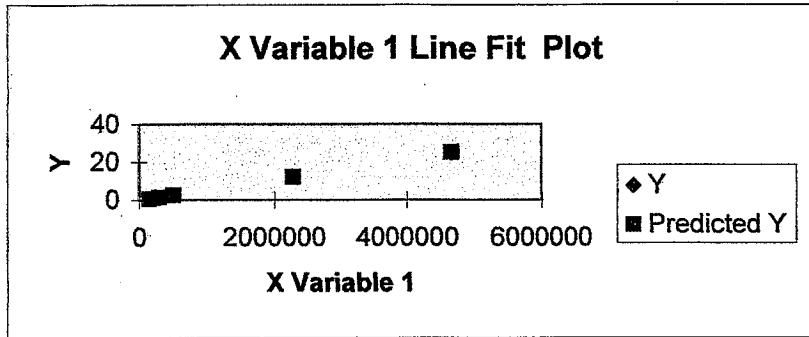
### ANOVA

	df	SS	MS	F	Significance F
Regression	1	440.5562	440.5562	9187.828	2.5E-06
Residual	3	0.14385	0.04795		
Total	4	440.7			

	Coefficient	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-0.267087	0.132935	-2.009153	0.138097	-0.690147	0.155972	-0.690147	0.155972
X Variable	5.45E-06	5.69E-08	95.85316	2.5E-06	5.27E-06	5.63E-06	5.27E-06	5.63E-06

## RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.576906	-0.076906
2	1.354561	-0.104561
3	2.491843	0.008157
4	12.17679	0.323211
5	25.1499	-0.149901



%

**FORMALDEHYDE (soils)**

Samples 360-24686-2 through 360-24686-11, 360-24686-13 and 360-24686-15 were analyzed for formaldehyde in accordance with EPA SW-846 Method 8315A. The samples were prepared and analyzed on 09/24/2009.

All QC performance standards identified in the project QAPP, which may affect Data Usability for this specific method, were achieved with the exception of:

Acetaldehyde and Formaldehyde failed the recovery criteria low for the MS/MSD of sample 360-24686-7 in batch 640-61209. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other difficulties were encountered during the formaldehyde analyses.

All other quality control parameters were within the acceptance limits.

**FORMALDEHYDE (water)**

Sample 360-24686-20 was analyzed for formaldehyde in accordance with EPA SW-846 Method 8315A. The samples were prepared on 09/20/2009 and analyzed on 09/23/2009.

General method information:

Formaldehyde was detected in method blank MB 640-60973/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

A batch ms/msd was not performed on the client sample due to sample being an equipment blank. Instead and LCS/LCSD was analyzed and met criteria.

No other difficulties were encountered during the formaldehyde analysis.

All other quality control parameters were within the acceptance limits.

**CORROSIVITY (PH) (soils)**

Samples 360-24686-17 and 360-24686-19 were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9045C. The samples were analyzed on 09/22/2009.

No difficulties were encountered during the pH analyses.

All quality control parameters were within the acceptance limits.

**AMMONIA (soil)**

Samples 360-24686-1 through 360-24686-11 and 360-24686-13 through 360-24686-16 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 09/30/2009 and 10/01/2009.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

**AMMONIA (water)**

Sample 360-24686-20 was analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 09/30/2009.

No difficulties were encountered during the ammonia analysis.

All quality control parameters were within the acceptance limits.

**MALEIC AND PHTHALIC ACID (DAI/HPLC) (soils)**

Samples 360-24686-2 through 360-24686-7, 360-24686-9 through 360-24686-11, 360-24686-13 and 360-24686-15 were analyzed for Maleic and Phthalic Acid (DAI/HPLC) in accordance with TAL LC65. The samples were prepared and analyzed on 09/24/2009.

All QC performance standards identified in the project QAPP, which may affect Data Usability for this specific method, were achieved with the exception of:

Phthalic Acid/Phthalic anhydride failed the recovery criteria low for the MS/MSD of sample 360-24686-7 in batch 640-61338. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the DAI/HPLC analyses.

All other quality control parameters were within the acceptance limits.

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Job Number: 360-24686-1  
Sdg Number: OCRI-18

**Client Sample ID:** OC-SB-435-0.0/1.0-XXX  
**Lab Sample ID:** 360-24686-2

Date Sampled: 09/17/2009 1445  
Date Received: 09/18/2009 1700  
Client Matrix: Solid  
Percent Solids: 18

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	570	1900	10
N-Nitrosodiphenylamine	ND	ug/Kg	570	1900	10
Pentachlorophenol	ND	ug/Kg	570	1900	10
Phenanthrene	ND	ug/Kg	570	2300	10
Phenol	ND	ug/Kg	570	1900	10
Pyrene	ND	ug/Kg	570	1900	10

## Surrogate

2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	46	%	30 - 130
2-Fluorobiphenyl	38	%	30 - 130
Nitrobenzene-d5	38	%	30 - 130
Phenol-d5	42	%	30 - 130
Terphenyl-d14	46	%	30 - 130

### Tentatively Identified Compounds

2-Furancarboxaldehyde, 5-(hydroxymethyl)	27000	T J N	ug/Kg	67-47-0	7.77	10
Vanillin	6400	T J N	ug/Kg	121-33-5	8.64	10
Benzoic acid, 4-hydroxy-3-methoxy-	7700	T J N	ug/Kg	121-34-6	9.33	10
1-Docosene	7200	T J N	ug/Kg	1599-67-3	11.82	10
1-Dotriacontanol	14000	T J N	ug/Kg	6624-79-9	12.48	10
1-Docosene	19000	T J N	ug/Kg	1599-67-3	13.40	10
Heneicosane, 11-pentyl-	18000	T J N	ug/Kg	14739-72-1	14.72	10
Tricosane	31000	T J N	ug/Kg	638-67-5	15.87	10
Vitamin e	6000	T J N	ug/Kg	10191-41-0	16.04	10
Taraxerol	25000	T J N	ug/Kg	127-22-0	17.22	10

**Method:** 8270C LL

**Prep Method:** 3550B

#### N-Nitrosodimethylamine

Date Analyzed: 10/01/2009 2154

Date Prepared: 09/29/2009 1050

ug/Kg 130 570 10

## Surrogate

2,4,6-Tribromophenol	64	%	30 - 130
2-Fluorobiphenyl	45	%	30 - 130
2-Fluorophenol	33	%	30 - 130
Nitrobenzene-d5	48	%	30 - 130
Phenol-d5	37	%	30 - 130
Terphenyl-d14	67	%	30 - 130

Method: 8315A

Prep Method: 8315\_S\_Prep

## Formaldehyde

### Acetaldehyde

Date Analyzed: 09/24/2009, 1737

Date Prepared: 09/24/2009 0735

ug/Kg 440 570 1.0

ug/Kg 170 1100 1.0

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-435-11/15-XXX  
 Lab Sample ID: 360-24686-3

Date Sampled: 09/17/2009 1400  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	62	%	30 - 130
2-Fluorophenol	72	%	30 - 130
2-Fluorobiphenyl	55	%	30 - 130
Nitrobenzene-d5	54	%	30 - 130
Phenol-d5	60	%	30 - 130
Terphenyl-d14	67	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Benzothiazole, 2-(methylthio)-	8.8	T J N	615-22-5	9.60
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	7.9	T J N	3910-35-8	9.99
Cyclic octaatomic sulfur	9.5	T J N	10544-50-0	11.36
Pentacosane	11	T J N	629-99-2	12.48

Method: 8270C LL	Date Analyzed:	10/01/2009 1735
Prep Method: 3550B	Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ND	ug/Kg

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorobiphenyl	65	%	30 - 130
2-Fluorophenol	73	%	30 - 130
Nitrobenzene-d5	74	%	30 - 130
Phenol-d5	79	%	30 - 130
Terphenyl-d14	65	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1749
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	170	ug/Kg
Acetaldehyde	ND	ug/Kg

Method: LC65	Date Analyzed:	09/24/2009 2029
Prep Method: LC65	Date Prepared:	09/24/2009 0735
Phthalic Acid/Phthalic anhydride	ND	ug/Kg

Method: 6010B	Date Analyzed:	09/29/2009 1347
Prep Method: 3050B	Date Prepared:	09/29/2009 0821

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-435-6.0/10-XXX  
 Lab Sample ID: 360-24686-4

Date Sampled: 09/17/2009 1335  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	64	%		30 - 130	
2-Fluorophenol	76	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	64	%		30 - 130	
Terphenyl-d14	65	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
3-Eicosene, (E)-	14	T J N	74685-33-9	12.48	1.0
Squalene	26	T J N	7683-64-9	14.10	1.0
Method: 8270C LL			Date Analyzed:	10/01/2009 1807	
Prep Method: 3550B			Date Prepared:	09/29/2009 1050	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.7	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	73	%	30 - 130		
2-Fluorobiphenyl	65	%	30 - 130		
2-Fluorophenol	72	%	30 - 130		
Nitrobenzene-d5	76	%	30 - 130		
Phenol-d5	77	%	30 - 130		
Terphenyl-d14	63	%	30 - 130		
Method: 8315A			Date Analyzed:	09/24/2009 1801	
Prep Method: 8315_S_Prep			Date Prepared:	09/24/2009 0735	
Formaldehyde	150	ug/Kg	87	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0
Method: LC65			Date Analyzed:	09/24/2009 2042	
Prep Method: LC65			Date Prepared:	09/24/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
Method: 6010B			Date Analyzed:	09/29/2009 1349	
Prep Method: 3050B			Date Prepared:	09/29/2009 0821	
Aluminum	7700	mg/Kg	0.99	3.8	1.0
Antimony	ND	mg/Kg	0.28	0.76	1.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site

Method: Formaldehyde 8315

Project #: 6107100016

Laboratory and SDG: TAL

Date: 3/31/10

Reviewer: C Ricardi

24665

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

Low Acetaldehyde MS recovery

2. Holding Time and Sample Preservation/Collection

Collect 9/16 Prep 9/23 7/day

3. QC Blanks

Soil MBK - ND

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

N/A

6. Lab Duplicate Precision (20/35)

N/A

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24665-1 SS 434 0.01,0 Form 5657 > 15  
Act 26-26

8. Surrogate Recovery (if applicable)

N/A

9. Internal Standard Recovery (if applicable)

N/A

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

Client Sample ID: OC-SS-434-0.0/1.0-XXX  
 Lab Sample ID: 360-24665-1

Date Sampled: 09/16/2009 1615  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 83

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	40	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	12	40	1.0	
Pentachlorophenol	ND	ug/Kg	12	40	1.0	
Phenanthrene	ND	ug/Kg	12	48	1.0	
Phenol	ND	ug/Kg	12	40	1.0	
Pyrene	ND	ug/Kg	12	40	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	50	%		30 - 130		
2-Fluorophenol	53	%		30 - 130		
2-Fluorobiphenyl	41	%		30 - 130		
Nitrobenzene-d5	43	%		30 - 130		
Phenol-d5	41	%		30 - 130		
Terphenyl-d14	49	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
1-Eicosanol	2600	T J N	ug/Kg	629-96-9	12.11	1.0
1-Docosene	4300	T J N	ug/Kg	1599-67-3	12.87	1.0
1,19-Eicosadiene	700	T J N	ug/Kg	14811-95-1	13.56	1.0
Heptadecane, 2-methyl-	3900	T J N	ug/Kg	1560-89-0	13.95	1.0
(Z)14-Tricosenyl formate	1200	T J N	ug/Kg	77899-10-6	15.02	1.0
Triaccontane	2200	T J N	ug/Kg	638-68-6	15.38	1.0
1,19-Eicosadiene	900	T J N	ug/Kg	14811-95-1	16.01	1.0
Docosane, 5-butyl-	460	T J N	ug/Kg	55282-16-1	16.23	1.0
.gamma.-Sitosterol	670	T J N	ug/Kg	83-47-6	16.38	1.0
2,4a,8,8-Tetramethyldecahydrocyclopropa[	1400	T J N	ug/Kg	74022-4-1	17.58	1.0
Method: 8270C LL				Date Analyzed:	09/26/2009 2217	
Prep Method: 3550B				Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	1.4		6.0	1.0
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	77	%		30 - 130		
2-Fluorobiphenyl	58	%		30 - 130		
2-Fluorophenol	54	%		30 - 130		
Nitrobenzene-d5	60	%		30 - 130		
Phenol-d5	60	%		30 - 130		
Terphenyl-d14	66	%		30 - 130		
Method: 8315A				Date Analyzed:	09/23/2009 1852	
Prep Method: 8315_S_Prep				Date Prepared:	09/23/2009 0750	
Formaldehyde	110	J	ug/Kg	93	120	1.0
Acetaldehyde	ND	VJ	ug/Kg	35	240	1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

Client Sample ID: OC-SS-440-0.0/1.0-XXX  
 Lab Sample ID: 360-24665-5

Date Sampled: 09/16/2009 1345  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 55

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	18	61	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	18	61	1.0	
Pentachlorophenol	ND	ug/Kg	18	61	1.0	
Phenanthrene	ND	ug/Kg	18	73	1.0	
Phenol	ND	ug/Kg	18	61	1.0	
Pyrene	ND	ug/Kg	18	61	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	50	%		30 - 130		
2-Fluorophenol	62	%		30 - 130		
2-Fluorobiphenyl	46	%		30 - 130		
Nitrobenzene-d5	48	%		30 - 130		
Phenol-d5	49	%		30 - 130		
Terphenyl-d14	43	%		30 - 130		
Tentatively Identified Compounds				Cas Number	RT	
Cyclic octaatomic sulfur	110	T J N	ug/Kg	10544-50-0	11.20	1.0
9,10-Anthracenedione, 1,8-dihydroxy-3-me	200	T J N	ug/Kg	481-74-3	11.94	1.0
1-Dotriacanol	440	T J N	ug/Kg	6624-79-9	12.28	1.0
Octadecane	160	T J N	ug/Kg	593-45-3	12.66	1.0
Cyclodocosane, ethyl-	720	T J N	ug/Kg	1000151-22-6	13.10	1.0
Dotriacantane	150	T J N	ug/Kg	544-85-4	13.64	1.0
Squalene	150	T J N	ug/Kg	7683-64-9	13.75	1.0
Heptadecane, 9-hexyl-	950	T J N	ug/Kg	55124-79-3	14.31	1.0
Hexadecane	350	T J N	ug/Kg	544-76-3	15.64	1.0
.gamma.-Sitosterol	160	T J N	ug/Kg	83-47-6	16.67	1.0
Method: 8270C LL				Date Analyzed:	09/27/2009 0237	
Prep Method: 3550B				Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	2.1	9.1	1.0	
Surrogate				Acceptance Limits		
2,4,6-Tribromophenol	76	%		30 - 130		
2-Fluorobiphenyl	59	%		30 - 130		
2-Fluorophenol	50	%		30 - 130		
Nitrobenzene-d5	63	%		30 - 130		
Phenol-d5	58	%		30 - 130		
Terphenyl-d14	74	%		30 - 130		
Method: 8315A				Date Analyzed:	09/23/2009 1940	
Prep Method: 8315_S_Prep				Date Prepared:	09/23/2009 0750	
Formaldehyde	570	ug/Kg	140	180	1.0	
Acetaldehyde	ND	ug/Kg	53	360	1.0	

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

Client Sample ID: OC-SS-450-0.0/1.0-XXX  
 Lab Sample ID: 360-24665-8

Date Sampled: 09/16/2009 1555  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 65

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	15	50	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	15	50	1.0	
Pentachlorophenol	ND	ug/Kg	15	50	1.0	
Phenanthrene	35 J	ug/Kg	15	59	1.0	
Phenol	ND	ug/Kg	15	50	1.0	
Pyrene	49 J	ug/Kg	15	50	1.0	
Surrogate						
2,4,6-Tribromophenol	51	%		30 - 130		
2-Fluorophenol	68	%		30 - 130		
2-Fluorobiphenyl	50	%		30 - 130		
Nitrobenzene-d5	51	%		30 - 130		
Phenol-d5	53	%		30 - 130		
Terphenyl-d14	60	%		30 - 130		
Tentatively Identified Compounds						
Benzoic acid, 4-hydroxy-3-methoxy-	180	T J N	ug/Kg	121-34-6	9.20	1.0
1-Heneicosyl formate	1400	T J N	ug/Kg	77899-3-7	12.29	1.0
1-Octadecanethiol	200	T J N	ug/Kg	2885-0-9	12.66	1.0
1-Docosene	2800	T J N	ug/Kg	1599-67-3	13.12	1.0
Triacontane	190	T J N	ug/Kg	638-68-6	13.65	1.0
Octacosane	3000	T J N	ug/Kg	630-2-4	14.34	1.0
Bicyclo[10.8.0]eicosane, (E)-	1200	T J N	ug/Kg	1000155-85-0	15.38	1.0
Dotriacontane	1500	T J N	ug/Kg	544-85-4	15.66	1.0
2-Nonadecanone	210	T J N	ug/Kg	629-66-3	15.75	1.0
1-Eicosanol	280	T J N	ug/Kg	629-96-9	16.55	1.0
<b>Method: 8270C LL</b>						
<b>Prep Method: 3550B</b>						
N-Nitrosodimethylamine	ND	ug/Kg	1.8	7.6	1.0	
Surrogate						
2,4,6-Tribromophenol	70	%		30 - 130		
2-Fluorobiphenyl	55	%		30 - 130		
2-Fluorophenol	54	%		30 - 130		
Nitrobenzene-d5	61	%		30 - 130		
Phenol-d5	56	%		30 - 130		
Terphenyl-d14	62	%		30 - 130		
<b>Method: 8315A</b>						
<b>Prep Method: 8315_S_Prep</b>						
Formaldehyde	350	ug/Kg	120	150	1.0	
Acetaldehyde	ND	ug/Kg	44	300	1.0	

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-455-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-11

Date Sampled: 09/16/2009 1750  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 85

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	16 J	ug/Kg	12	39	1.0
Surrogate					
2,4,6-Tribromophenol	42	%		30 - 130	
2-Fluorophenol	62	%		30 - 130	
2-Fluorobiphenyl	43	%		30 - 130	
Nitrobenzene-d5	45	%		30 - 130	
Phenol-d5	48	%		30 - 130	
Terphenyl-d14	61	%		30 - 130	
Acceptance Limits					
Tentatively Identified Compounds					
Cyclohexadecane, 1,2-diethyl-	420	T J N	ug/Kg	1000155-85-3	11.67
1-Docosene	3500	T J N	ug/Kg	1599-67-3	12.29
1-Dotriacanol	420	T J N	ug/Kg	6624-79-9	12.66
1,21-Docosadiene	260	T J N	ug/Kg	53057-53-7	12.82
Cyclotetacosane	5900	T J N	ug/Kg	297-3-0	13.14
13-Octadecenal	21	T J N	ug/Kg	56554-90-6	15.38
Hexatriacontane	22	T J N	ug/Kg	630-6-8	15.66
<b>Method: 8270C LL</b>					
<b>Prep Method: 3550B</b>					
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9	1.0
Acceptance Limits					
2,4,6-Tribromophenol	70	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
2-Fluorophenol	52	%		30 - 130	
Nitrobenzene-d5	58	%		30 - 130	
Phenol-d5	54	%		30 - 130	
Terphenyl-d14	64	%		30 - 130	
<b>Method: 8315A</b>					
<b>Prep Method: 8315_S_Prep</b>					
Formaldehyde	220	ug/Kg	91	120	1.0
Acetaldehyde	ND	ug/Kg	34	230	1.0
<b>Method: LC65</b>					
<b>Prep Method: LC65</b>					
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SS-460-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-12

Date Sampled: 09/16/2009 1730  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	14	J	ug/Kg	12	47
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	29	J	ug/Kg	12	39
Surrogate					
2,4,6-Tribromophenol	42	%		30 - 130	
2-Fluorophenol	59	%		30 - 130	
2-Fluorobiphenyl	40	%		30 - 130	
Nitrobenzene-d5	43	%		30 - 130	
Phenol-d5	45	%		30 - 130	
Terphenyl-d14	61	%		30 - 130	
Acceptance Limits					
Tentatively Identified Compounds					
			Cas Number	RT	
1-Octadecene	430	T J N	ug/Kg	112-88-9	11.67
Tricosane	260	T J N	ug/Kg	638-67-5	11.69
Heptadecane, 9-octyl-	260	T J N	ug/Kg	7225-64-1	11.97
1-Docosene	3000	T J N	ug/Kg	1599-67-3	12.30
Ethanol, 2-(tetradecyloxy)-	430	T J N	ug/Kg	2136-70-1	12.67
1,21-Docosadiene	500	T J N	ug/Kg	53057-53-7	12.83
Cyclotetacosane	7300	T J N	ug/Kg	297-3-0	13.15
Oxirane, hexadecyl-	36	T J N	ug/Kg	7390-81-0	15.39
Hexatriacontane	25	T J N	ug/Kg	630-6-8	15.66
Friedelin	260	T J N	ug/Kg	559-74-0	18.10
<b>Method:</b> 8270C LL			Date Analyzed:	09/26/2009 2322	
<b>Prep Method:</b> 3550B			Date Prepared:	09/22/2009 1155	
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9	1.0
Acceptance Limits					
2,4,6-Tribromophenol	59	%		30 - 130	
2-Fluorobiphenyl	46	%		30 - 130	
2-Fluorophenol	39	%		30 - 130	
Nitrobenzene-d5	52	%		30 - 130	
Phenol-d5	45	%		30 - 130	
Terphenyl-d14	57	%		30 - 130	
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 2015	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/23/2009 0750	
Formaldehyde	220	ug/Kg	91	120	1.0
Acetaldehyde	ND	ug/Kg	34	230	1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SB-413-0.0/1.0-XXX  
**Lab Sample ID:** 360-24665-16

Date Sampled: 09/17/2009 1110  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 73

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Formaldehyde	260	ug/Kg	110	140	1.0
Acetaldehyde	44 J	ug/Kg	39	270	1.0
<b>Method:</b> LC65		Date Analyzed:	09/24/2009 1846		
<b>Prep Method:</b> LC65		Date Prepared:	09/23/2009 0735		
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	24	130	1.0
<b>Method:</b> 6010B		Date Analyzed:	09/25/2009 1513		
<b>Prep Method:</b> 3050B		Date Prepared:	09/25/2009 0824		
Aluminum	17000	mg/Kg	1.9	7.4	2.0
Antimony	ND	mg/Kg	0.53	1.5	2.0
Arsenic	5.2	mg/Kg	0.27	2.9	2.0
Barium	6.9	mg/Kg	0.19	1.5	2.0
Beryllium	0.27 J	mg/Kg	0.074	0.59	2.0
Cadmium	0.14 J	mg/Kg	0.021	0.59	2.0
Calcium	330 B	mg/Kg	7.4	29	2.0
Chromium	10	mg/Kg	0.20	1.5	2.0
Cobalt	1.1 J	mg/Kg	0.19	1.5	2.0
Copper	5.2	mg/Kg	0.19	2.9	2.0
Iron	7200 B	mg/Kg	2.3	15	2.0
Lead	13	mg/Kg	0.17	1.5	2.0
Magnesium	290 B	mg/Kg	1.5	29	2.0
Manganese	14	mg/Kg	0.20	2.9	2.0
Nickel	3.2	mg/Kg	0.19	2.9	2.0
Potassium	230 J	mg/Kg	92	590	2.0
Selenium	ND	mg/Kg	0.69	1.5	2.0
Silver	ND	mg/Kg	0.15	1.5	2.0
Sodium	ND	mg/Kg	38	290	2.0
Thallium	ND	mg/Kg	0.21	2.9	2.0
Vanadium	18	mg/Kg	0.19	2.9	2.0
Zinc	6.7 J	mg/Kg	1.7	7.4	2.0
Tin	4.1 J ^ B	mg/Kg	0.94	15	2.0
<b>Method:</b> 7471A		Date Analyzed:	09/23/2009 0955		
<b>Prep Method:</b> 7471A		Date Prepared:	09/22/2009 0905		
Mercury	ND	mg/Kg	0.037	0.20	1.0

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Job Number: 360-24665-1  
 Sdg Number: OCRI-17

**Client Sample ID:** OC-SB-413-1.0/5.0-XXX  
**Lab Sample ID:** 360-24665-17

Date Sampled: 09/17/2009 1020  
 Date Received: 09/17/2009 1630  
 Client Matrix: Solid  
 Percent Solids: 89

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	ND	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	ND	ug/Kg	11	37	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	69	%	30 - 130
2-Fluorophenol	76	%	30 - 130
2-Fluorobiphenyl	58	%	30 - 130
Nitrobenzene-d5	57	%	30 - 130
Phenol-d5	55	%	30 - 130
Terphenyl-d14	86	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
1R-.alpha.-Pinene	23	T J N	7785-70-8	5.55
Butylated Hydroxytoluene	33	T J N	128-37-0	8.95
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	25	T J N	3910-35-8	9.84
Pentadecanoic acid, 14-methyl-, methyl e	22	T J N	5129-60-2	10.51
1-Heptadecanol	42	T J N	1454-85-9	11.67
1-Hexacosene	230	T J N	18835-33-1	12.29
1-Dotriacontanol	250	T J N	6624-79-9	13.12
Squalene	50	T J N	7683-64-9	13.77

**Method:** 8270C LL  
**Prep Method:** 3550B  
 N-Nitrosodimethylamine

Date Analyzed: 09/27/2009 0132  
 Date Prepared: 09/22/2009 1155

ND ug/Kg 1.3 5.6 1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	75	%	30 - 130
2-Fluorobiphenyl	56	%	30 - 130
2-Fluorophenol	53	%	30 - 130
Nitrobenzene-d5	55	%	30 - 130
Phenol-d5	58	%	30 - 130
Terphenyl-d14	78	%	30 - 130

**Method:** 8315A  
**Prep Method:** 8315\_S\_Prep  
 Formaldehyde

Date Analyzed: 09/23/2009 2039  
 Date Prepared: 09/23/2009 0750

340 ug/Kg 85 110 1.0

Acetaldehyde

38 ug/Kg 31 220 1.0

**Method:** LC65  
**Prep Method:** LC65

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Job Number: 360-24665-1  
Sdg Number: OCRI-17

Client Sample ID: OC-SB-413-10/12-XXX  
Lab Sample ID: 360-24665-18

Date Sampled: 09/17/2009 1050  
Date Received: 09/17/2009 1630  
Client Matrix: Solid  
Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method:</b> 8315A			Date Analyzed:	09/23/2009 2050	
<b>Prep Method:</b> 8315_S_Prep			Date Prepared:	09/23/2009 0750	
Formaldehyde	120	ug/Kg	86	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0

CHEMIST REVIEW-VALIDATION CHECKLIST

Project: Olin Chemical Superfund Site      Method: Formaldehyde 8315  
Project #: 6107100016      Laboratory and SDG: TAL 24686  
Date: 3/19/10      Reviewer: C Ricardi

Chemist Review  Full Validation (add page 2)

1. Case Narrative and Data Package Completeness (COC Review)

- Formaldehyde in MBK aqueous
- m3/MSD Low 24686-7

2. Holding Time and Sample Preservation/Collection

Collected 9/17 and 9/18  
Prep 9/24 Analysis 9/24

3. QC Blanks

MBK - Water 11.9 J      EBK - Formaldehyde 12 J Area 102515  
Soil MBK <78      Area 103450 (EBK)

4. Laboratory Control Sample Review (80-120%)

Within limits

5. Field Duplicate Precision (30/50)

NA

6. Lab Duplicate Precision (20/35)

NA

7. Matrix Spike Results (if applicable) 75-125% (20/30)

24686-7 SB-473 0.0/1.0

Form 23-26%  
Act 12-14%

8. Surrogate Recovery (if applicable)

NA

9. Internal Standard Recovery (if applicable)

NA

## CHEMIST REVIEW-VALIDATION CHECKLIST

### FULL VALIDATION CHECKS

Ten Percent of data sets will have full validation checks completed during chemist review.

Initial Calibration

Continuing Calibration Verification

#### Transcription and Calculation Checks

Instrument Calibration

Blank Review – raw data/chromatogram check

Laboratory Control Sample

Matrix Spike

Field Sample Results

Possible % moisture errors on samples

Surrogate Recovery

NA

SB-435 0/1

SB 453 0/1

Date	Conc	Area	Concentration
9/22/2009	CCV	2237454	12.5
	MBK	ND	
	LCS	674798	3.9
	MS	371927	2.3
	SB-435-0.0/1.0-X	186793	1.3
	SB-435-11/15-X	191203	1.3
	SB-435-6/10-X	171159	1.2

\* Observed higher concentrations  
 based on Excel Regression -  
 But close enough to confirm  
 data processor calc.

CH

0.5	154846	309692
1.25	297521	238016.8
2.5	506176	202470.4
12.5	2283056	182644.5
25	4663210	186528.4

↙ RPF

Non-linear response at  
low end.

High bias at low end

223870.4

Avg RF

## SUMMARY OUTPUT

### Regression Statistics

Multiple R	0.999837
R Square	0.999674
Adjusted R	0.999565
Standard E	0.218975
Observatio	5

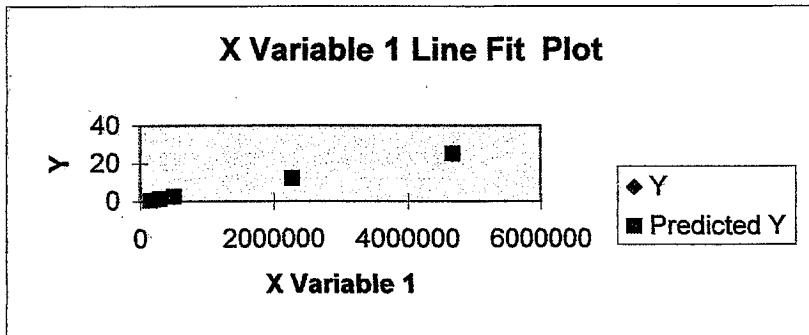
### ANOVA

	df	SS	MS	F	ignificance F
Regressior	1	440.5562	440.5562	9187.828	2.5E-06
Residual	3	0.14385	0.04795		
Total	4	440.7			

	Coefficient	standard Err	t Stat	P-value	Lower 95%	Upper 95%	lower 95.0%	upper 95.0%
Intercept	-0.267087	0.132935	-2.009153	0.138097	-0.690147	0.155972	-0.690147	0.155972
X Variable	5.45E-06	5.69E-08	95.85316	2.5E-06	5.27E-06	5.63E-06	5.27E-06	5.63E-06

## RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.576906	-0.076906
2	1.354561	-0.104561
3	2.491843	0.008157
4	12.17679	0.323211
5	25.1499	-0.149901



%

**FORMALDEHYDE (soils)**

Samples 360-24686-2 through 360-24686-11, 360-24686-13 and 360-24686-15 were analyzed for formaldehyde in accordance with EPA SW-846 Method 8315A. The samples were prepared and analyzed on 09/24/2009.

All QC performance standards identified in the project QAPP, which may affect Data Usability for this specific method, were achieved with the exception of:

Acetaldehyde and Formaldehyde failed the recovery criteria low for the MS/MSD of sample 360-24686-7 in batch 640-61209. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other difficulties were encountered during the formaldehyde analyses.

All other quality control parameters were within the acceptance limits.

**FORMALDEHYDE (water)**

Sample 360-24686-20 was analyzed for formaldehyde in accordance with EPA SW-846 Method 8315A. The samples were prepared on 09/20/2009 and analyzed on 09/23/2009.

General method information:

Formaldehyde was detected in method blank MB 640-60973/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

A batch ms/msd was not performed on the client sample due to sample being an equipment blank. Instead and LCS/LCSD was analyzed and met criteria.

No other difficulties were encountered during the formaldehyde analysis.

All other quality control parameters were within the acceptance limits.

**CORROSIVITY (PH) (soils)**

Samples 360-24686-17 and 360-24686-19 were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9045C. The samples were analyzed on 09/22/2009.

No difficulties were encountered during the pH analyses.

All quality control parameters were within the acceptance limits.

**AMMONIA (soil)**

Samples 360-24686-1 through 360-24686-11 and 360-24686-13 through 360-24686-16 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 09/30/2009 and 10/01/2009.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

**AMMONIA (water)**

Sample 360-24686-20 was analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 09/30/2009.

No difficulties were encountered during the ammonia analysis.

All quality control parameters were within the acceptance limits.

**MALEIC AND PHTHALIC ACID (DAI/HPLC) (soils)**

Samples 360-24686-2 through 360-24686-7, 360-24686-9 through 360-24686-11, 360-24686-13 and 360-24686-15 were analyzed for Maleic and Phthalic Acid (DAI/HPLC) in accordance with TAL LC65. The samples were prepared and analyzed on 09/24/2009.

All QC performance standards identified in the project QAPP, which may affect Data Usability for this specific method, were achieved with the exception of:

Phthalic Acid/Phthalic anhydride failed the recovery criteria low for the MS/MSD of sample 360-24686-7 in batch 640-61338. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the DAI/HPLC analyses.

All other quality control parameters were within the acceptance limits.

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

**Client Sample ID:** OC-SB-435-0.0/1.0-XXX  
**Lab Sample ID:** 360-24686-2

Date Sampled: 09/17/2009 1445  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 18

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	570	1900	10
N-Nitrosodiphenylamine	ND	ug/Kg	570	1900	10
Pentachlorophenol	ND	ug/Kg	570	1900	10
Phenanthrene	ND	ug/Kg	570	2300	10
Phenol	ND	ug/Kg	570	1900	10
Pyrene	ND	ug/Kg	570	1900	10

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	46	%	30 - 130
2-Fluorobiphenyl	38	%	30 - 130
Nitrobenzene-d5	38	%	30 - 130
Phenol-d5	42	%	30 - 130
Terphenyl-d14	46	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
2-Furancarboxaldehyde, 5-(hydroxymethyl)	27000	T J N	ug/Kg	67-47-0
Vanillin	6400	T J N	ug/Kg	121-33-5
Benzoic acid, 4-hydroxy-3-methoxy-	7700	T J N	ug/Kg	121-34-6
1-Docosene	7200	T J N	ug/Kg	1599-67-3
1-Dotriacontanol	14000	T J N	ug/Kg	6624-79-9
1-Docosene	19000	T J N	ug/Kg	1599-67-3
Heneicosane, 11-pentyl-	18000	T J N	ug/Kg	14739-72-1
Tricosane	31000	T J N	ug/Kg	638-67-5
Vitamin e	6000	T J N	ug/Kg	10191-41-0
Taraxerol	25000	T J N	ug/Kg	127-22-0

<b>Method:</b> 8270C LL	Date Analyzed:	10/01/2009 2154
<b>Prep Method:</b> 3550B	Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ND	ug/Kg

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	64	%	30 - 130
2-Fluorobiphenyl	45	%	30 - 130
2-Fluorophenol	33	%	30 - 130
Nitrobenzene-d5	48	%	30 - 130
Phenol-d5	37	%	30 - 130
Terphenyl-d14	67	%	30 - 130

<b>Method:</b> 8315A	Date Analyzed:	09/24/2009 1737
<b>Prep Method:</b> 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	860	ug/Kg
Acetaldehyde	200	J

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-435-11/15-XXX  
 Lab Sample ID: 360-24686-3

Date Sampled: 09/17/2009 1400  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 92

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	36	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	36	1.0
Pentachlorophenol	ND	ug/Kg	11	36	1.0
Phenanthrene	ND	ug/Kg	11	43	1.0
Phenol	ND	ug/Kg	11	36	1.0
Pyrene	ND	ug/Kg	11	36	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	62	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
2-Fluorobiphenyl	55	%		30 - 130	
Nitrobenzene-d5	54	%		30 - 130	
Phenol-d5	60	%		30 - 130	
Terphenyl-d14	67	%		30 - 130	
Tentatively Identified Compounds			Cas Number	RT	
Benzothiazole, 2-(methylthio)-	8.8	T J N	615-22-5	9.60	1.0
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	7.9	T J N	3910-35-8	9.99	1.0
Cyclic octaatomic sulfur	9.5	T J N	10544-50-0	11.36	1.0
Pentacosane	11	T J N	629-99-2	12.48	1.0
Method: 8270C LL			Date Analyzed:	10/01/2009 1735	
Prep Method: 3550B			Date Prepared:	09/29/2009 1050	
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.4	1.0
Surrogate			Acceptance Limits		
2,4,6-Tribromophenol	68	%	30 - 130		
2-Fluorobiphenyl	65	%	30 - 130		
2-Fluorophenol	73	%	30 - 130		
Nitrobenzene-d5	74	%	30 - 130		
Phenol-d5	79	%	30 - 130		
Terphenyl-d14	65	%	30 - 130		
Method: 8315A			Date Analyzed:	09/24/2009 1749	
Prep Method: 8315_S_Prep			Date Prepared:	09/24/2009 0735	
Formaldehyde	170	ug/Kg	84	110	1.0
Acetaldehyde	ND	ug/Kg	31	220	1.0
Method: LC65			Date Analyzed:	09/24/2009 2029	
Prep Method: LC65			Date Prepared:	09/24/2009 0735	
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
Method: 6010B			Date Analyzed:	09/29/2009 1347	
Prep Method: 3050B			Date Prepared:	09/29/2009 0821	

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

**Client Sample ID:** OC-SB-435-6.0/10-XXX  
**Lab Sample ID:** 360-24686-4

Date Sampled: 09/17/2009 1335  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	38	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	38	1.0
Pentachlorophenol	ND	ug/Kg	11	38	1.0
Phenanthrene	ND	ug/Kg	11	45	1.0
Phenol	ND	ug/Kg	11	38	1.0
Pyrene	ND	ug/Kg	11	38	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	64	%		30 - 130	
2-Fluorophenol	76	%		30 - 130	
2-Fluorobiphenyl	58	%		30 - 130	
Nitrobenzene-d5	56	%		30 - 130	
Phenol-d5	64	%		30 - 130	
Terphenyl-d14	65	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
3-Eicosene, (E)-	14	T J N	ug/Kg	74685-33-9	12.48
Squalene	26	T J N	ug/Kg	7683-64-9	14.10
<b>Method:</b> 8270C LL				Date Analyzed:	10/01/2009 1807
<b>Prep Method:</b> 3550B				Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ND	ug/Kg	1.3	5.7	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	73	%		30 - 130	
2-Fluorobiphenyl	65	%		30 - 130	
2-Fluorophenol	72	%		30 - 130	
Nitrobenzene-d5	76	%		30 - 130	
Phenol-d5	77	%		30 - 130	
Terphenyl-d14	63	%		30 - 130	
<b>Method:</b> 8315A				Date Analyzed:	09/24/2009 1801
<b>Prep Method:</b> 8315_S_Prep				Date Prepared:	09/24/2009 0735
Formaldehyde	150	ug/Kg	87	110	1.0
Acetaldehyde	ND	ug/Kg	32	220	1.0
<b>Method:</b> LC65				Date Analyzed:	09/24/2009 2042
<b>Prep Method:</b> LC65				Date Prepared:	09/24/2009 0735
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	19	110	1.0
<b>Method:</b> 6010B				Date Analyzed:	09/29/2009 1349
<b>Prep Method:</b> 3050B				Date Prepared:	09/29/2009 0821
Aluminum	7700	mg/Kg	0.99	3.8	1.0
Antimony	ND	mg/Kg	0.28	0.76	1.0

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-453-0.0/1.0-XXX  
 Lab Sample ID: 360-24686-5

Date Sampled: 09/17/2009 1625  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 19

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	5200	17000	10
N-Nitrosodiphenylamine	ND	ug/Kg	5200	17000	10
Pentachlorophenol	ND	ug/Kg	5200	17000	10
Phenanthrene	ND	ug/Kg	5200	21000	10
Phenol	ND	ug/Kg	5200	17000	10
Pyrene	ND	ug/Kg	5200	17000	10

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	196	X	%
2-Fluorophenol	62		%
2-Fluorobiphenyl	48		%
Nitrobenzene-d5	60		%
Phenol-d5	53		%
Terphenyl-d14	60		%

Tentatively Identified Compounds			Cas Number	RT
1-Dotriacontanol	140000	T J N	ug/Kg	6624-79-9
Oleyl Alcohol	79000	T J N	ug/Kg	143-28-2
Octacosane	140000	T J N	ug/Kg	630-2-4
Tricosane	30000	T J N	ug/Kg	638-67-5
13-Octadecenal	110000	T J N	ug/Kg	56554-90-6
Hexatriacontane	270000	T J N	ug/Kg	630-6-8
10-Heneicosene (c,t)	150000	T J N	ug/Kg	95008-11-0
Oxirane, tetradecyl-	70000	T J N	ug/Kg	7320-37-8
Squalene	520000	T J N	ug/Kg	7683-64-9
Taraxerol	120000	T J N	ug/Kg	127-22-0

Method: 8270C LL	Date Analyzed:	10/01/2009 2226
Prep Method: 3550B	Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ug/Kg	190

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	77	%	30 - 130
2-Fluorobiphenyl	44	%	30 - 130
2-Fluorophenol	34	%	30 - 130
Nitrobenzene-d5	53	%	30 - 130
Phenol-d5	41	%	30 - 130
Terphenyl-d14	53	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1812
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	ug/Kg	420
Acetaldehyde	ug/Kg	150

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-453-1.0/6.0-XXX  
 Lab Sample ID: 360-24686-6

Date Sampled: 09/17/2009 1600  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 79

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	41	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	41	1.0
Pentachlorophenol	ND	ug/Kg	12	41	1.0
Phenanthrene	ND	ug/Kg	12	49	1.0
Phenol	ND	ug/Kg	12	41	1.0
Pyrene	ND	ug/Kg	12	41	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	68	%	30 - 130
2-Fluorophenol	74	%	30 - 130
2-Fluorobiphenyl	57	%	30 - 130
Nitrobenzene-d5	56	%	30 - 130
Phenol-d5	62	%	30 - 130
Terphenyl-d14	71	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Tricosane	250	T J N	638-67-5	11.83
Tritetracontane	450	T J N	7098-21-7	12.48
Heptacosane	580	T J N	593-49-7	13.38
Eicosane, 3-methyl-	150	T J N	6418-46-8	14.72
2-Heptacosanone	350	T J N	7796-19-2	14.89
Eicosane	270	T J N	112-95-8	15.87
1-Heneicosyl formate	610	T J N	77899-3-7	15.92
.gamma.-Sitosterol	400	T J N	83-47-6	17.02
1,4-Dimethyl-8-isopropylidenetricyclo[5.	120	T J N	1000140-7-7	17.22
3,4-Epoxy-4a-ethyl-2,3,4,4a,5,6-hexahyd	230	T J N	80249-75-8	17.52

Method: 8270C LL	Date Analyzed:	10/01/2009 2050
Prep Method: 3550B	Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ug/Kg	7.3

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	73	%	30 - 130
2-Fluorobiphenyl	71	%	30 - 130
2-Fluorophenol	74	%	30 - 130
Nitrobenzene-d5	79	%	30 - 130
Phenol-d5	79	%	30 - 130
Terphenyl-d14	71	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1824
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	ug/Kg	97
Acetaldehyde	ug/Kg	36

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-473-0.0/1.0-XXX  
 Lab Sample ID: 360-24686-7

Date Sampled: 09/18/2009 0940  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 82

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	120	410	10
N-Nitrosodiphenylamine	ND	ug/Kg	120	410	10
Pentachlorophenol	ND	ug/Kg	120	410	10
Phenanthrene	ND	ug/Kg	120	490	10
Phenol	ND	ug/Kg	120	410	10
Pyrene	ND	ug/Kg	120	410	10

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	75	%	30 - 130
2-Fluorophenol	62	%	30 - 130
2-Fluorobiphenyl	52	%	30 - 130
Nitrobenzene-d5	53	%	30 - 130
Phenol-d5	53	%	30 - 130
Terphenyl-d14	65	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Triaccontane	460	T J N	638-68-6	12.88
1-Dotriacanol	2600	T J N	6624-79-9	13.38
Octadecane	530	T J N	593-45-3	13.97
1,21-Docosadiene	1200	T J N	53057-53-7	14.26
Docosane	2500	T J N	629-97-0	14.71
17-Octadecenal	2200	T J N	56554-86-0	15.63
Octacosane	3000	T J N	630-2-4	15.87
Cyclohexane, [6-cyclopentyl-3-(3-cyclo-	1100	T J N	55401-72-4	15.92
11-Tetradecen-1-ol acetate	1300	T J N	1000130-79-7	16.51
.gamma.-Sitosterol	1500	T J N	83-47-6	17.01

Method: 8270C LL	Date Analyzed:	10/01/2009 2122
Prep Method: 3550B	Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ug/Kg	1.4

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	66	%	30 - 130
2-Fluorobiphenyl	62	%	30 - 130
2-Fluorophenol	63	%	30 - 130
Nitrobenzene-d5	74	%	30 - 130
Phenol-d5	70	%	30 - 130
Terphenyl-d14	79	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1836
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	220	ug/Kg
Acetaldehyde	ND	ug/Kg

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-473-13/15-XXX  
 Lab Sample ID: 360-24686-8

Date Sampled: 09/18/2009 0920  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 91

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
<b>Method: 8315A</b>			Date Analyzed:	09/24/2009 1923		
<b>Prep Method: 8315_S_Prep</b>			Date Prepared:	09/24/2009 0735		
Formaldehyde	93	J	ug/Kg	84	110	1.0
Acetaldehyde	ND		ug/Kg	31	220	1.0
<b>Method: 6010B</b>			Date Analyzed:	09/29/2009 1401		
<b>Prep Method: 3050B</b>			Date Prepared:	09/29/2009 0821		
Aluminum	8400		mg/Kg	0.85	3.3	1.0
Antimony	ND		mg/Kg	0.24	0.66	1.0
Arsenic	7.5		mg/Kg	0.12	1.3	1.0
Barium	28		mg/Kg	0.085	0.66	1.0
Beryllium	0.36		mg/Kg	0.033	0.26	1.0
Cadmium	0.25	J	mg/Kg	0.0092	0.26	1.0
Calcium	2000	B	mg/Kg	3.3	13	1.0
Chromium	360		mg/Kg	0.087	0.66	1.0
Cobalt	6.0		mg/Kg	0.085	0.66	1.0
Copper	18		mg/Kg	0.085	1.3	1.0
Iron	14000	B	mg/Kg	1.0	6.6	1.0
Lead	2.5		mg/Kg	0.075	0.66	1.0
Magnesium	3600	B	mg/Kg	0.66	13	1.0
Manganese	140		mg/Kg	0.088	1.3	1.0
Nickel	14		mg/Kg	0.085	1.3	1.0
Potassium	1400		mg/Kg	41	260	1.0
Selenium	ND		mg/Kg	0.31	0.66	1.0
Silver	5.0		mg/Kg	0.066	0.66	1.0
Sodium	53	J	mg/Kg	17	130	1.0
Thallium	ND		mg/Kg	0.095	1.3	1.0
Vanadium	20		mg/Kg	0.085	1.3	1.0
Zinc	28		mg/Kg	0.77	3.3	1.0
Tin	150	B ^	mg/Kg	0.42	6.6	1.0

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SB-473-4.0/6.0-XXX  
 Lab Sample ID: 360-24686-9

Date Sampled: 09/18/2009 0905  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	12	39	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	12	39	1.0
Pentachlorophenol	ND	ug/Kg	12	39	1.0
Phenanthrene	ND	ug/Kg	12	47	1.0
Phenol	ND	ug/Kg	12	39	1.0
Pyrene	ND	ug/Kg	12	39	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	66	%		30 - 130	
2-Fluorophenol	76	%		30 - 130	
2-Fluorobiphenyl	59	%		30 - 130	
Nitrobenzene-d5	54	%		30 - 130	
Phenol-d5	61	%		30 - 130	
Terphenyl-d14	82	%		30 - 130	
Tentatively Identified Compounds				Cas Number	RT
Benzothiazole, 2-(methylthio)-	11	T J N	ug/Kg	615-22-5	9.60
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3	8.6	T J N	ug/Kg	3910-35-8	9.99
Method: 8270C LL				Date Analyzed:	10/01/2009 1913
Prep Method: 3550B				Date Prepared:	09/29/2009 1050
N-Nitrosodimethylamine	ND	ug/Kg	1.4	5.9	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	63	%		30 - 130	
2-Fluorobiphenyl	59	%		30 - 130	
2-Fluorophenol	64	%		30 - 130	
Nitrobenzene-d5	64	%		30 - 130	
Phenol-d5	69	%		30 - 130	
Terphenyl-d14	57	%		30 - 130	
Method: 8315A				Date Analyzed:	09/24/2009 1935
Prep Method: 8315_S_Prep				Date Prepared:	09/24/2009 0735
Formaldehyde	110	J	ug/Kg	92	120
Acetaldehyde	ND		ug/Kg	34	240
Method: LC65				Date Analyzed:	09/24/2009 2225
Prep Method: LC65				Date Prepared:	09/24/2009 0735
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	120	1.0
Method: 6010B				Date Analyzed:	09/29/2009 1410
Prep Method: 3050B				Date Prepared:	09/29/2009 0821
Aluminum	4100	mg/Kg	0.87	3.4	1.0
Antimony	ND	mg/Kg	0.24	0.67	1.0

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SS-453-0.0/1.0-XXX  
 Lab Sample ID: 360-24686-10

Date Sampled: 09/17/2009 1740  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 72

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
N-Nitrosodi-n-propylamine	ND	ug/Kg	14	46	1.0	
N-Nitrosodiphenylamine	ND	ug/Kg	14	46	1.0	
Pentachlorophenol	ND	ug/Kg	14	46	1.0	
Phenanthrene	27	J	ug/Kg	14	55	1.0
Phenol	ND	ug/Kg	14	46	1.0	
Pyrene	43	J	ug/Kg	14	46	1.0

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	47	%	30 - 130
2-Fluorophenol	63	%	30 - 130
2-Fluorobiphenyl	47	%	30 - 130
Nitrobenzene-d5	47	%	30 - 130
Phenol-d5	52	%	30 - 130
Terphenyl-d14	60	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Vanillin	120	T J N	121-33-5	8.64
1-Octadecene	160	T J N	112-88-9	11.82
1-Eicosene	920	T J N	3452-7-1	12.48
1-Dotriacontanol	110	T J N	6624-79-9	12.89
1-Docosene	1400	T J N	1599-67-3	13.40
Hexatriacontane	1100	T J N	630-6-8	14.74
1,19-Eicosadiene	970	T J N	14811-95-1	15.65
Octacosane	1200	T J N	630-2-4	15.89
.gamma.-Sitosterol	730	T J N	83-47-6	17.03
Friedelin	450	T J N	559-74-0	18.50

Method: 8270C LL	Date Analyzed:	09/27/2009 0342
Prep Method: 3550B	Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ug/Kg	1.6

Surrogate	Acceptance Limits		
2,4,6-Tribromophenol	66	%	30 - 130
2-Fluorobiphenyl	52	%	30 - 130
2-Fluorophenol	48	%	30 - 130
Nitrobenzene-d5	55	%	30 - 130
Phenol-d5	50	%	30 - 130
Terphenyl-d14	62	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1947
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	ug/Kg	110
Acetaldehyde	ug/Kg	40

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SS-457-0.0/1.0-XXX  
 Lab Sample ID: 360-24686-11

Date Sampled: 09/17/2009 1755  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 90

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	11	37	1.0
N-Nitrosodiphenylamine	ND	ug/Kg	11	37	1.0
Pentachlorophenol	ND	ug/Kg	11	37	1.0
Phenanthrene	15 J	ug/Kg	11	44	1.0
Phenol	ND	ug/Kg	11	37	1.0
Pyrene	40	ug/Kg	11	37	1.0

			Acceptance Limits
2,4,6-Tribromophenol	52	%	30 - 130
2-Fluorophenol	60	%	30 - 130
2-Fluorobiphenyl	45	%	30 - 130
Nitrobenzene-d5	44	%	30 - 130
Phenol-d5	48	%	30 - 130
Terphenyl-d14	59	%	30 - 130

Tentatively Identified Compounds			Cas Number	RT
Benzothiazole, 2-(methylthio)-	14	T J N	615-22-5	9.60
Hexadecenoic acid, Z-11-	120	T J N	2416-20-8	10.74
1-Octadecene	19	T J N	112-88-9	11.81
Trifluoroacetic acid, n-octadecyl ester	94	T J N	1000216-79-4	12.47
1-Hexacosanol	150	T J N	506-52-5	13.39
Tricosane, 2-methyl-	120	T J N	1928-30-9	14.73
p,p"-Diocetyl diphenylamine	230	T J N	26603-23-6	15.25
2(3H)-Furanone, 3,4-bis(1,3-benzodioxol-	30	T J N	26543-89-5	15.84
Hexacosane	360	T J N	630-1-3	15.88
1-Hexacosanol	92	T J N	506-52-5	15.92

Method: 8270C LL	Date Analyzed:	09/27/2009 0414
Prep Method: 3550B	Date Prepared:	09/22/2009 1155
N-Nitrosodimethylamine	ug/Kg	1.3

Surrogate			Acceptance Limits
2,4,6-Tribromophenol	67	%	30 - 130
2-Fluorobiphenyl	49	%	30 - 130
2-Fluorophenol	46	%	30 - 130
Nitrobenzene-d5	49	%	30 - 130
Phenol-d5	50	%	30 - 130
Terphenyl-d14	54	%	30 - 130

Method: 8315A	Date Analyzed:	09/24/2009 1959
Prep Method: 8315_S_Prep	Date Prepared:	09/24/2009 0735
Formaldehyde	ug/Kg	86
Acetaldehyde	ug/Kg	32

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-SS-456-0.0/1.0-XXX  
 Lab Sample ID: 360-24686-13

Date Sampled: 09/18/2009 1320  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 84

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Surrogate</b>					<b>Acceptance Limits</b>
2-Fluorobiphenyl	59	%		30 - 130	
2-Fluorophenol	60	%		30 - 130	
Nitrobenzene-d5	67	%		30 - 130	
Phenol-d5	66	%		30 - 130	
Terphenyl-d14	56	%		30 - 130	
<b>Method: 8315A</b>					Date Analyzed: 09/24/2009 2010
<b>Prep Method: 8315_S_Prep</b>					Date Prepared: 09/24/2009 0735
Formaldehyde	220	ug/Kg	93	120	1.0
Acetaldehyde	ND	ug/Kg	35	240	1.0
<b>Method: LC65</b>					Date Analyzed: 09/24/2009 2303
<b>Prep Method: LC65</b>					Date Prepared: 09/24/2009 0735
Phthalic Acid/Phthalic anhydride	ND	ug/Kg	21	110	1.0
<b>Method: 6010B</b>					Date Analyzed: 09/29/2009 1418
<b>Prep Method: 3050B</b>					Date Prepared: 09/29/2009 0821
Aluminum	6800	mg/Kg	0.87	3.4	1.0
Antimony	ND	mg/Kg	0.24	0.67	1.0
Arsenic	4.1	mg/Kg	0.12	1.3	1.0
Barium	9.3	mg/Kg	0.087	0.67	1.0
Beryllium	0.20	J	0.034	0.27	1.0
Cadmium	0.16	J	0.0094	0.27	1.0
Calcium	620	B	3.4	13	1.0
Chromium	6.8	mg/Kg	0.090	0.67	1.0
Cobalt	1.3	mg/Kg	0.087	0.67	1.0
Copper	4.4	mg/Kg	0.087	1.3	1.0
Iron	6300	B	1.1	6.7	1.0
Lead	8.2	mg/Kg	0.077	0.67	1.0
Magnesium	490	B	0.67	13	1.0
Manganese	61	mg/Kg	0.090	1.3	1.0
Nickel	4.0	mg/Kg	0.087	1.3	1.0
Potassium	330	mg/Kg	42	270	1.0
Selenium	0.49	J B	0.31	0.67	1.0
Silver	ND	mg/Kg	0.068	0.67	1.0
Sodium	ND	mg/Kg	17	130	1.0
Thallium	ND	mg/Kg	0.097	1.3	1.0
Vanadium	9.1	mg/Kg	0.087	1.3	1.0
Zinc	18	mg/Kg	0.79	3.4	1.0
Tin	2.5	J B ^	0.43	6.7	1.0
<b>Method: 7471A</b>					Date Analyzed: 09/23/2009 1333

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

**Client Sample ID:** OC-SS-459-0.0/1.0-XXX  
**Lab Sample ID:** 360-24686-15

Date Sampled: 09/18/2009 1345  
 Date Received: 09/18/2009 1700  
 Client Matrix: Solid  
 Percent Solids: 87

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
N-Nitrosodi-n-propylamine	ND	ug/Kg	110	380	10
N-Nitrosodiphenylamine	ND	ug/Kg	110	380	10
Pentachlorophenol	ND	ug/Kg	110	380	10
Phenanthrene	170 J	ug/Kg	110	460	10
Phenol	ND	ug/Kg	110	380	10
Pyrene	800	ug/Kg	110	380	10

Surrogate		Acceptance Limits
2,4,6-Tribromophenol	82	% 30 - 130
2-Fluorophenol	73	% 30 - 130
2-Fluorobiphenyl	57	% 30 - 130
Nitrobenzene-d5	52	% 30 - 130
Phenol-d5	53	% 30 - 130
Terphenyl-d14	72	% 30 - 130

Tentatively Identified Compounds		Cas Number	RT		
Benzothiazole, 2-(methylthio)-	330	T J N	ug/Kg 615-22-5	9.60	10
Cyclohexadecane, 1,2-diethyl-	400	T J N	ug/Kg 1000155-85-3	11.82	10
Ethanol, 2-(tetradecyloxy)-	1400	T J N	ug/Kg 2136-70-1	12.48	10
Heptadecane	290	T J N	ug/Kg 629-78-7	12.89	10
16-Octadecenal	340	T J N	ug/Kg 56554-87-1	13.07	10
1-Docosene	2300	T J N	ug/Kg 1599-67-3	13.39	10
Heptadecane, 2-methyl-	5900	T J N	ug/Kg 1560-89-0	14.72	10
Hexacosane	780	T J N	ug/Kg 630-1-3	15.42	10
Bicyclo[10.8.0]eicosane, (E)-	14000	T J N	ug/Kg 1000155-85-0	15.64	10
Octacosane	8900	T J N	ug/Kg 630-2-4	15.88	10

Method: 8270C LL	Date Analyzed: 10/01/2009 2017		
Prep Method: 3550B	Date Prepared: 09/29/2009 1050		
N-Nitrosodimethylamine	ND ug/Kg 1.3	5.7	1.0

Surrogate		Acceptance Limits
2,4,6-Tribromophenol	63 %	30 - 130
2-Fluorobiphenyl	58 %	30 - 130
2-Fluorophenol	58 %	30 - 130
Nitrobenzene-d5	70 %	30 - 130
Phenol-d5	66 %	30 - 130
Terphenyl-d14	80 %	30 - 130

Method: 8315A	Date Analyzed: 09/24/2009 2022		
Prep Method: 8315_S_Prep	Date Prepared: 09/24/2009 0735		
Formaldehyde	230 ug/Kg 89	110	1.0
Acetaldehyde	ND ug/Kg 33	230	1.0

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Job Number: 360-24686-1  
 Sdg Number: OCRI-18

Client Sample ID: OC-EBK-012  
 Lab Sample ID: 360-24686-20

Date Sampled: 09/17/2009 1715  
 Date Received: 09/18/2009 1700  
 Client Matrix: Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Diphenylamine	ND	ug/L	0.51	5.1	1.0
Surrogate Acceptance Limits					
2,4,6-Tribromophenol	80	%		15 - 110	
2-Fluorobiphenyl	67	%		30 - 130	
2-Fluorophenol	23	%		15 - 110	
Nitrobenzene-d5	66	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
Terphenyl-d14	81	%		30 - 130	
2,4,6-Tribromophenol	80	%		15 - 110	
2-Fluorobiphenyl	67	%		30 - 130	
2-Fluorophenol	23	%		15 - 110	
Nitrobenzene-d5	66	%		30 - 130	
Phenol-d5	14	X	%	15 - 110	
Terphenyl-d14	81	%		30 - 130	
Tentatively Identified Compounds					
Tentatively Identified Compound	None	ug/L		0.00	1.0
Method: 8315A			Date Analyzed:	09/23/2009 1805	
Prep Method: 8315_W_Prep			Date Prepared:	09/20/2009 2208	
Formaldehyde	12	J B	ug/L	5.0	50
Acetaldehyde	ND		ug/L	10	100
Method: LC65			Date Analyzed:	09/23/2009 2108	
Prep Method: LC65			Date Prepared:	09/22/2009 0844	
Phthalic Acid/Phthalic anhydride	ND		ug/L	1.4	10
Method: 6010B			Date Analyzed:	09/21/2009 1242	
Prep Method: 3010A			Date Prepared:	09/21/2009 0732	
Aluminum	ND		ug/L	39	100
Antimony	ND		ug/L	2.9	6.0
Barium	ND		ug/L	2.0	10
Arsenic	ND		ug/L	2.3	10
Beryllium	ND		ug/L	0.20	1.0
Cadmium	ND		ug/L	0.20	1.0
Calcium	ND		ug/L	59	400
Chromium	ND		ug/L	1.3	5.0
Cobalt	ND		ug/L	2.0	10
Copper	3.2	J	ug/L	1.7	10
Iron	ND		ug/L	34	100
Lead	ND		ug/L	1.3	5.0
Magnesium	ND		ug/L	50	400

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24686-1  
Sdg Number: OCRI-18

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Prep Batch: 640-60973</b>					
LCS 640-60973/2-A	Lab Control Sample	T	Water	8315_W_Prep	
LCSD 640-60973/3-A	Lab Control Sample Duplicate	T	Water	8315_W_Prep	
MB 640-60973/1-A	Method Blank	T	Water	8315_W_Prep	
360-24686-20	OC-EBK-012	T	Water	8315_W_Prep	
<b>Prep Batch: 640-61034</b>					
LCS 640-61034/2-A	Lab Control Sample	T	Water	LC65	
LCSD 640-61034/3-A	Lab Control Sample Duplicate	T	Water	LC65	
MB 640-61034/1-A	Method Blank	T	Water	LC65	
360-24686-20	OC-EBK-012	T	Water	LC65	
<b>Prep Batch: 640-61125</b>					
LCS 640-61125/2-A	Lab Control Sample	T	Solid	8315_S_Prep	
LCSD 640-61125/3-A	Lab Control Sample Duplicate	T	Solid	8315_S_Prep	
MB 640-61125/1-A	Method Blank	T	Solid	8315_S_Prep	
360-24686-2	OC-SB-435-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-3	OC-SB-435-11/15-XXX	T	Solid	8315_S_Prep	
360-24686-4	OC-SB-435-6.0/10-XXX	T	Solid	8315_S_Prep	
360-24686-5	OC-SB-453-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-6	OC-SB-453-1.0/6.0-XXX	T	Solid	8315_S_Prep	
360-24686-7	OC-SB-473-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-7MS	Matrix Spike	T	Solid	8315_S_Prep	
360-24686-7MSD	Matrix Spike Duplicate	T	Solid	8315_S_Prep	
360-24686-8	OC-SB-473-13/15-XXX	T	Solid	8315_S_Prep	
360-24686-9	OC-SB-473-4.0/6.0-XXX	T	Solid	8315_S_Prep	
360-24686-10	OC-SS-453-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-11	OC-SS-457-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-13	OC-SS-456-0.0/1.0-XXX	T	Solid	8315_S_Prep	
360-24686-15	OC-SS-459-0.0/1.0-XXX	T	Solid	8315_S_Prep	

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24686-1  
Sdg Number: OCRI-18

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC</b>					
<b>Prep Batch: 640-61126</b>					
LCS 640-61126/2-A	Lab Control Sample	T	Solid	LC65	
LCSD 640-61126/3-A	Lab Control Sample Duplicate	T	Solid	LC65	
MB 640-61126/1-A	Method Blank	T	Solid	LC65	
360-24686-2	OC-SB-435-0.0/1.0-XXX	T	Solid	LC65	
360-24686-3	OC-SB-435-11/15-XXX	T	Solid	LC65	
360-24686-4	OC-SB-435-6.0/10-XXX	T	Solid	LC65	
360-24686-5	OC-SB-453-0.0/1.0-XXX	T	Solid	LC65	
360-24686-6	OC-SB-453-1.0/6.0-XXX	T	Solid	LC65	
360-24686-7	OC-SB-473-0.0/1.0-XXX	T	Solid	LC65	
360-24686-7MS	Matrix Spike	T	Solid	LC65	
360-24686-7MSD	Matrix Spike Duplicate	T	Solid	LC65	
360-24686-9	OC-SB-473-4.0/6.0-XXX	T	Solid	LC65	
360-24686-10	OC-SS-453-0.0/1.0-XXX	T	Solid	LC65	
360-24686-11	OC-SS-457-0.0/1.0-XXX	T	Solid	LC65	
360-24686-13	OC-SS-456-0.0/1.0-XXX	T	Solid	LC65	
360-24686-15	OC-SS-459-0.0/1.0-XXX	T	Solid	LC65	
<b>Analysis Batch:640-61209</b>					
LCS 640-61125/2-A	Lab Control Sample	T	Solid	8315A	640-61125
LCSD 640-61125/3-A	Lab Control Sample Duplicate	T	Solid	8315A	640-61125
MB 640-61125/1-A	Method Blank	T	Solid	8315A	640-61125
360-24686-2	OC-SB-435-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-3	OC-SB-435-11/15-XXX	T	Solid	8315A	640-61125
360-24686-4	OC-SB-435-6.0/10-XXX	T	Solid	8315A	640-61125
360-24686-5	OC-SB-453-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-6	OC-SB-453-1.0/6.0-XXX	T	Solid	8315A	640-61125
360-24686-7	OC-SB-473-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-7MS	Matrix Spike	T	Solid	8315A	640-61125
360-24686-7MSD	Matrix Spike Duplicate	T	Solid	8315A	640-61125
360-24686-8	OC-SB-473-13/15-XXX	T	Solid	8315A	640-61125
360-24686-9	OC-SB-473-4.0/6.0-XXX	T	Solid	8315A	640-61125
360-24686-10	OC-SS-453-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-11	OC-SS-457-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-13	OC-SS-456-0.0/1.0-XXX	T	Solid	8315A	640-61125
360-24686-15	OC-SS-459-0.0/1.0-XXX	T	Solid	8315A	640-61125
<b>Analysis Batch:640-61322</b>					
LCS 640-61034/2-A	Lab Control Sample	T	Water	LC65	640-61034
LCSD 640-61034/3-A	Lab Control Sample Duplicate	T	Water	LC65	640-61034
MB 640-61034/1-A	Method Blank	T	Water	LC65	640-61034
360-24686-20	OC-EBK-012	T	Water	LC65	640-61034

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24686-1  
Sdg Number: OCRI-18**Method Blank - Batch: 640-60973****Method: 8315A****Preparation: 8315\_W\_Prep**

Lab Sample ID: MB 640-60973/1-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 09/23/2009 1730  
Date Prepared: 09/20/2009 2208

Analysis Batch: 640-61356  
Prep Batch: 640-60973  
Units: ug/L

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M3.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	11.9	J	5.0	50
Acetaldehyde	ND		10	100

*✓*  
**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 640-60973**

**Method: 8315A**  
**Preparation: 8315\_W\_Prep**

LCS Lab Sample ID: LCS 640-60973/2-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 09/23/2009 1742  
Date Prepared: 09/20/2009 2208

Analysis Batch: 640-61356  
Prep Batch: 640-60973  
Units: ug/L

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M4.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-60973/3-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 09/23/2009 1753  
Date Prepared: 09/20/2009 2208

Analysis Batch: 640-61356  
Prep Batch: 640-60973  
Units: ug/L

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M5.d  
Initial Weight/Volume: 100 mL  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.				RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD	Limit					
Formaldehyde	114	113	70 - 125	1	20			
Acetaldehyde	102	97	79 - 113	5	20			

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24686-1  
Sdg Number: OCRI-18

**Method Blank - Batch: 640-61125**

**Method: 8315A**

**Preparation: 8315\_S\_Prep**

Lab Sample ID: MB 640-61125/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 09/24/2009 1702  
Date Prepared: 09/24/2009 0735

Analysis Batch: 640-61209  
Prep Batch: 640-61125  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M24.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	Result	Qual	MDL	RL
Formaldehyde	ND		78	100
Acetaldehyde	ND		29	200

**Lab Control Sample/**

**Lab Control Sample Duplicate Recovery Report - Batch: 640-61125**

**Method: 8315A**

**Preparation: 8315\_S\_Prep**

LCS Lab Sample ID: LCS 640-61125/2-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 09/24/2009 1713  
Date Prepared: 09/24/2009 0735

Analysis Batch: 640-61209  
Prep Batch: 640-61125  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M25.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

LCSD Lab Sample ID: LCSD 640-61125/3-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 09/24/2009 1725  
Date Prepared: 09/24/2009 0735

Analysis Batch: 640-61209  
Prep Batch: 640-61125  
Units: ug/Kg

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M26.d  
Initial Weight/Volume: 20.0 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Formaldehyde	92	91	71 - 122	1	30		
Acetaldehyde	86	84	61 - 131	2	30		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-24686-1  
Sdg Number: OCRI-18

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 640-61125**

**Method: 8315A  
Preparation: 8315\_S\_Prep**

MS Lab Sample ID: 360-24686-7      Analysis Batch: 640-61209  
Client Matrix: Solid      Prep Batch: 640-61125  
Dilution: 1.0  
Date Analyzed: 09/24/2009 1848  
Date Prepared: 09/24/2009 0735

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M33.d  
Initial Weight/Volume: 20.3 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

MSD Lab Sample ID: 360-24686-7      Analysis Batch: 640-61209  
Client Matrix: Solid      Prep Batch: 640-61125  
Dilution: 1.0  
Date Analyzed: 09/24/2009 1900  
Date Prepared: 09/24/2009 0735

Instrument ID: LCM Waters 486  
Lab File ID: 2I23M34.d  
Initial Weight/Volume: 20.2 g  
Final Weight/Volume: 4.0 mL  
Injection Volume: 10 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Formaldehyde	23	26	31 - 131	7	30	F	F
Acetaldehyde	14	12	30 - 130	12	30	J F	J F

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1

SDG No.: OCRI-18

Matrix: Water Level: Low Lab File ID: 2I23M4.d

Lab ID: LCS 640-60973/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Formaldehyde	150	172	114	70-125	
Acetaldehyde	150	153	102	79-113	

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Matrix: Solid Level: Low Lab File ID: 2I23M25.d  
Lab ID: LCS 640-61125/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Formaldehyde	750	686	92	71-122	
Acetaldehyde	750	642	86	61-131	

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Matrix: Water Level: Low Lab File ID: 2I23M5.d

Lab ID: LCSD 640-60973/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD %	REC	QC LIMITS		#
					RPD	RPD	
Formaldehyde	150	169	113	1	20	70-125	
Acetaldehyde	150	146	97	5	20	79-113	

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Matrix: Solid Level: Low Lab File ID: 2I23M26.d

Lab ID: LCSD 640-61125/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	% REC	%	QC LIMITS		#
					RPD	REC	
Formaldehyde	750	682	91	1	30	71-122	
Acetaldehyde	750	629	84	2	30	61-131	

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Matrix: Solid Level: Low Lab File ID: 2I23M33.d  
Lab ID: 360-24686-7 MS Client ID: OC-SB-473-0.0/1.0-XXX MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Formaldehyde	906	220	425	23	31-131	F
Acetaldehyde	906	ND	123 J	14	30-130	F

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM III  
HPLC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Matrix: Solid Level: Low Lab File ID: 2I23M34.d

Lab ID: 360-24686-7 MSD Client ID: OC-SB-473-0.0/1.0-XXX MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Formaldehyde	910	454	26	7	30	31-131	F
Acetaldehyde	910	109 J	12	12	30	30-130	F

Calculations are performed before rounding

# Column to be used to flag recovery and RPD values

FORM III 8315A

FORM IV  
HPLC METHOD BLANK SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab File ID: 2I23M3.d Lab Sample ID: MB 640-60973/1-A  
Matrix: Water Date Extracted: 09/20/2009 22:08  
Instrument ID: LCM Date Analyzed: 09/23/2009 17:30  
Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 640-60973/2-A	2I23M4.d	09/23/2009 17:42
	LCSD 640-60973/3-A	2I23M5.d	09/23/2009 17:53
OC-EBK-012	360-24686-20	2I23M6.d	09/23/2009 18:05

FORM IV  
HPLC METHOD BLANK SUMMARY

Lab Name: TestAmerica Tallahassee	Job No.: 360-24686-1
SDG No.: OCRI-18	
Lab File ID: 2I23M24.d	Lab Sample ID: MB 640-61125/1-A
Matrix: Solid	Date Extracted: 09/24/2009 07:35
Instrument ID: LCM	Date Analyzed: 09/24/2009 17:02
Level: (Low/Med) Low	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 640-61125/2-A	2I23M25.d	09/24/2009 17:13
	LCSD 640-61125/3-A	2I23M26.d	09/24/2009 17:25
OC-SB-435-0.0/1.0-XXX	360-24686-2	2I23M27.d	09/24/2009 17:37
OC-SB-435-11/15-XXX	360-24686-3	2I23M28.d	09/24/2009 17:49
OC-SB-435-6.0/10-XXX	360-24686-4	2I23M29.d	09/24/2009 18:01
OC-SB-453-0.0/1.0-XXX	360-24686-5	2I23M30.d	09/24/2009 18:12
OC-SB-453-1.0/6.0-XXX	360-24686-6	2I23M31.d	09/24/2009 18:24
OC-SB-473-0.0/1.0-XXX	360-24686-7	2I23M32.d	09/24/2009 18:36
OC-SB-473-0.0/1.0-XXX MS	360-24686-7 MS	2I23M33.d	09/24/2009 18:48
OC-SB-473-0.0/1.0-XXX MSD	360-24686-7 MSD	2I23M34.d	09/24/2009 19:00
OC-SB-473-13/15-XXX	360-24686-8	2I23M36.d	09/24/2009 19:23
OC-SB-473-4.0/6.0-XXX	360-24686-9	2I23M37.d	09/24/2009 19:35
OC-SS-453-0.0/1.0-XXX	360-24686-10	2I23M38.d	09/24/2009 19:47
OC-SS-457-0.0/1.0-XXX	360-24686-11	2I23M39.d	09/24/2009 19:59
OC-SS-456-0.0/1.0-XXX	360-24686-13	2I23M40.d	09/24/2009 20:10
OC-SS-459-0.0/1.0-XXX	360-24686-15	2I23M41.d	09/24/2009 20:22

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-435-0.0/1.0-XXX Lab Sample ID: 360-24686-2  
Matrix: Solid Lab File ID: 2I23M27.d  
Analysis Method: 8315A Date Collected: 09/17/2009 14:45  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.0(g) Date Analyzed: 09/24/2009 17:37  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 82.4 GPC Cleanup: (Y/N) N  
Analysis Batch No. 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 860		570	440
75-07-0	Acetaldehyde	200 J		1100	170

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M27.d  
Lab Smp Id: 360-24686-F-2-A Client Smp ID: OC-SB-435-0.0/1.0-X  
Inj Date : 24-SEP-2009 17:37  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-2-A  
Misc Info : 360-24686-F-2-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	186793	0.75103	150	✓
2 Acetaldehyde	4.016	4.016	0.000	17438	0.17206	34.4 (a)	✓

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation (BLOQ).

*Aut =  $\frac{17438}{101351} = 172$*

*see Excel sheet*

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24686-1</u>
SDG No.: <u>OCRI-18</u>	
Client Sample ID: <u>OC-SB-435-11/15-XXX</u>	Lab Sample ID: <u>360-24686-3</u>
Matrix: <u>Solid</u>	Lab File ID: <u>2I23M28.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>09/17/2009 14:00</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/24/2009 07:35</u>
Sample wt/vol: <u>20.3(g)</u>	Date Analyzed: <u>09/24/2009 17:49</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>8.5</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>61209</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 170		110	84
75-07-0	Acetaldehyde	ND		220	31

✓  
 Cal check  
 CR

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M28.d  
Lab Smp Id: 360-24686-F-3-A Client Smp ID: OC-SB-435-11/15-XXX  
Inj Date : 24-SEP-2009 17:49  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-3-A  
Misc Info : 360-24686-F-3-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.300	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/kg)	
1 Formaldehyde	2.966	2.950	0.016	191203	0.77507	153	
2 Acetaldehyde				Compound Not Detected.			

Based on RF →  $\frac{191203}{309692} = .62 \text{ ug/ml}$  OK

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24686-1</u>
SDG No.: <u>OCRI-18</u>	
Client Sample ID: <u>OC-SB-435-6.0/10-XXX</u>	Lab Sample ID: <u>360-24686-4</u>
Matrix: <u>Solid</u>	Lab File ID: <u>2I23M29.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>09/17/2009 13:35</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/24/2009 07:35</u>
Sample wt/vol: <u>20.6(g)</u>	Date Analyzed: <u>09/24/2009 18:01</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>13.1</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>61209</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	150		110	87
75-07-0	Acetaldehyde	ND		220	32

  
 calc check  
 CR

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M29.d  
Lab Smp Id: 360-24686-F-4-A Client Smp ID: OC-SB-435-6.0/10-XX  
Inj Date : 24-SEP-2009 18:01  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-4-A  
Misc Info : 360-24686-F-4-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.600	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	171159	0.66582	129	
2 Acetaldehyde				Compound Not Detected.			

$$\text{Form RF} = \frac{171159}{309692} = .55 \text{ g/ml}$$

$$\frac{129}{87} = 148 \text{ g/kg}$$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24686-1</u>
SDG No.: <u>OCRI-18</u>	
Client Sample ID: <u>OC-SB-453-0.0/1.0-XXX</u>	Lab Sample ID: <u>360-24686-5</u>
Matrix: <u>Solid</u>	Lab File ID: <u>2I23M30.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>09/17/2009 16:25</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/24/2009 07:35</u>
Sample wt/vol: <u>20.1(g)</u>	Date Analyzed: <u>09/24/2009 18:12</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>81.3</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>61209</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	640		530	420
75-07-0	Acetaldehyde	ND		1100	150

*CH*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M30.d  
Lab Smp Id: 360-24686-F-5-A Client Smp ID: OC-SB-453-0.0/1.0-X  
Inj Date : 24-SEP-2009 18:12  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-5-A  
Misc Info : 360-24686-F-5-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.100	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	158814	0.59853	119	
2 Acetaldehyde				Compound Not Detected.			

119 ug/kg = 626  
.19  
*ch*

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-453-1.0/6.0-XXX Lab Sample ID: 360-24686-6  
Matrix: Solid Lab File ID: 2I23M31.d  
Analysis Method: 8315A Date Collected: 09/17/2009 16:00  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.2(g) Date Analyzed: 09/24/2009 18:24  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 20.6 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 180		120	97
75-07-0	Acetaldehyde	ND		250	36



TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M31.d  
Lab Smp Id: 360-24686-F-6-A Client Smp ID: OC-SB-453-1.0/6.0-X  
Inj Date : 24-SEP-2009 18:24  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-6-A  
Misc Info : 360-24686-F-6-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: .1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	180449	0.71646	142	✓
2 Acetaldehyde				Compound Not Detected.			

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-473-0.0/1.0-XXX Lab Sample ID: 360-24686-7  
Matrix: Solid Lab File ID: 2I23M32.d  
Analysis Method: 8315A Date Collected: 09/18/2009 09:40  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.1(g) Date Analyzed: 09/24/2009 18:36  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 18.4 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 220		120	95
75-07-0	Acetaldehyde	ND		240	35

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M32.d  
Lab Smp Id: 360-24686-F-7-A Client Smp ID: OC-SB-473-0.0/1.0-X  
Inj Date : 24-SEP-2009 18:36  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-7-A  
Misc Info : 360-24686-F-7-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.100	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	214420	0.90162	179	✓
2 Acetaldehyde				Compound Not Detected.			

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-473-13/15-XXX Lab Sample ID: 360-24686-8  
Matrix: Solid Lab File ID: 2I23M36.d  
Analysis Method: 8315A Date Collected: 09/18/2009 09:20  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.3(g) Date Analyzed: 09/24/2009 19:23  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 8.8 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	V 93	J	110	84
75-07-0	Acetaldehyde	ND		220	31

*✓*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M36.d  
Lab Smp Id: 360-24686-G-8-A Client Smp ID: OC-SB-473-13/15-XXX  
Inj Date : 24-SEP-2009 19:23  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-G-8-A  
Misc Info : 360-24686-G-8-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.300	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	128238	0.43188	85.1(a)	
2 Acetaldehyde				Compound Not Detected.			

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-473-4.0/6.0-XXX Lab Sample ID: 360-24686-9  
Matrix: Solid Lab File ID: 2I23M37.d  
Analysis Method: 8315A Date Collected: 09/18/2009 09:05  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.2(g) Date Analyzed: 09/24/2009 19:35  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 16.2 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 110	J	120	92
75-07-0	Acetaldehyde	ND		240	34

*M*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M37.d  
Lab Smp Id: 360-24686-F-9-A Client Smp ID: OC-SB-473-4.0/6.0-X  
Inj Date : 24-SEP-2009 19:35  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-9-A  
Misc Info : 360-24686-F-9-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS					REVIEW CODE	
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	133272	0.45932	91.0(a)	✓
2 Acetaldehyde				Compound Not Detected.			

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
 SDG No.: OCRI-18  
 Client Sample ID: OC-SS-453-0.0/1.0-XXX Lab Sample ID: 360-24686-10  
 Matrix: Solid Lab File ID: 2I23M38.d  
 Analysis Method: 8315A Date Collected: 09/17/2009 17:40  
 Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
 Sample wt/vol: 20.2(g) Date Analyzed: 09/24/2009 19:47  
 Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
 Injection Volume: 10 (uL) Level: (low/med) Low  
 % Moisture: 28.3 GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	310		140	110
75-07-0	Acetaldehyde	ND		280	40

*un  
cal checked*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M38.d  
Lab Smp Id: 360-24686-F-10-A Client Smp ID: OC-SS-453-0.0/1.0-X  
Inj Date : 24-SEP-2009 19:47  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-10-A  
Misc Info : 360-24686-F-10-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	253825	1.11639	221	
2 Acetaldehyde				Compound Not Detected.			

Formaldehyde =  $\frac{253825}{238014} = 1.07 \text{ g/ml}$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Tallahassee</u>	Job No.: <u>360-24686-1</u>
SDG No.: <u>OCRI-18</u>	
Client Sample ID: <u>OC-SS-457-0.0/1.0-XXX</u>	Lab Sample ID: <u>360-24686-11</u>
Matrix: <u>Solid</u>	Lab File ID: <u>2I23M39.d</u>
Analysis Method: <u>8315A</u>	Date Collected: <u>09/17/2009 17:55</u>
Extract. Method: <u>8315_S_Prep</u>	Date Extracted: <u>09/24/2009 07:35</u>
Sample wt/vol: <u>20.2(g)</u>	Date Analyzed: <u>09/24/2009 19:59</u>
Con. Extract Vol.: <u>4.0 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>10(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>10.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>61209</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	270		110	86
75-07-0	Acetaldehyde	46	J	220	32

*CM*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M39.d  
Lab Smp Id: 360-24686-F-11-A Client Smp ID: OC-SS-457-0.0/1.0-X  
Inj Date : 24-SEP-2009 19:59  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-11-A  
Misc Info : 360-24686-F-11-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.200	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	276739	1.24129	246	
2 Acetaldehyde	4.000	4.016	-0.016	21134	0.20852	41.3(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SS-456-0.0/1.0-XXX Lab Sample ID: 360-24686-13  
Matrix: Solid Lab File ID: 2I23M40.d  
Analysis Method: 8315A Date Collected: 09/18/2009 13:20  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.0(g) Date Analyzed: 09/24/2009 20:10  
Con. Extract Vol.: 4.0(mL) Dilution Factor: 1  
Injection Volume: 10(uL) Level: (low/med) Low  
% Moisture: 16.5 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 220		120	93
75-07-0	Acetaldehyde	ND		240	35

*cm*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M40.d  
Lab Smp Id: 360-24686-F-13-A Client Smp ID: OC-SS-456-0.0/1.0-X  
Inj Date : 24-SEP-2009 20:10  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-13-A  
Misc Info : 360-24686-F-13-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	218110	0.92173	184	
2 Acetaldehyde				Compound Not Detected.			

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Client Sample ID: OC-SS-459-0.0/1.0-XXX

Lab Sample ID: 360-24686-15

Matrix: Solid

Lab File ID: 2I23M41.d

Analysis Method: 8315A

Date Collected: 09/18/2009 13:45

Extract. Method: 8315\_S\_Prep

Date Extracted: 09/24/2009 07:35

Sample wt/vol: 20.1(g)

Date Analyzed: 09/24/2009 20:22

Con. Extract Vol.: 4.0 (mL)

Dilution Factor: 1

Injection Volume: 10 (uL)

Level: (low/med) Low

% Moisture: 12.9

GPC Cleanup: (Y/N) N

Analysis Batch No.: 61209

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 230		110	89
75-07-0	Acetaldehyde	ND		230	33

*UV*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M41.d  
Lab Smp Id: 360-24686-F-15-A Client Smp ID: OC-SS-459-0.0/1.0-X  
Inj Date : 24-SEP-2009 20:22  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-15-A  
Misc Info : 360-24686-F-15-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.100	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.950	2.950	0.000	230440	0.98893	197	✓
2 Acetaldehyde				Compound Not Detected.			U

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-EBK-012 Lab Sample ID: 360-24686-20  
Matrix: Water Lab File ID: 2I23M6.d  
Analysis Method: 8315A Date Collected: 09/17/2009 17:15  
Extract. Method: 8315\_W\_Prep Date Extracted: 09/20/2009 22:08  
Sample wt/vol: 100 (mL) Date Analyzed: 09/23/2009 18:05  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61356 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 12	J B	50	5.0
75-07-0	Acetaldehyde	ND		100	10

*W*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\2I23M6.d  
Lab Smp Id: 360-24686-J-20-A Client Smp ID: OC-EBK-012  
Inj Date : 23-SEP-2009 18:05  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-J-20-A  
Misc Info : 360-24686-J-20-A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\8315\_A&F.m  
Meth Date : 24-Sep-2009 16:36 TLCMUV1.i Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)	
1 Formaldehyde	2.966	2.950	0.016	102515	0.29167	11.7(a)	
2 Acetaldehyde				Compound Not Detected.			

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

$$\frac{102515}{309692} = .33 \text{ g/mL}$$

## FORM VI

HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

Analy Batch No.: 60997

SDG No.: OCRI-18

Instrument ID: LCM

GC Column: LC-C18

ID:

Heated Purge: (Y/N) N

Calibration Start Date: 09/16/2009 09:36

Calibration End Date: 09/16/2009 10:23

Calibration ID: 289

## Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-60997/11	1I16M2.d
Level 2	IC 640-60997/14	1I16M3.d
Level 3	IC 640-60997/15	1I16M4.d
Level 4	IC 640-60997/16	1I16M5.d
Level 5	IC 640-60997/17	1I16M6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	16250	30105	52981	252763	499298	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	5116	11990	23102	121373	244939	0.500	1.25	2.50	12.5	25.0

## Curve Type Legend:

Ave = Average by Height  
 Lin = Linear by Height

✓ raw data  
 check  
 CR

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\1I16M2.d  
Lab Smp Id: C1.60799 Client Smp ID: C1.60799  
Inj Date : 16-SEP-2009 09:36  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C1.60799  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\8315\_A&F.m  
Meth Date : 16-Sep-2009 10:44 smithdn Quant Type: ESTD  
Cal Date : 16-SEP-2009 09:36 Cal File: 1I16M2.d  
Als bottle: 1 Calibration Sample, Level: 1  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	16250	0.50000	0.500	
2 Acetaldehyde	3.950	3.950	0.000	5116	0.50000	0.500	

✓✓

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\1I16M3.d  
Lab Smp Id: C2.60799 Client Smp ID: C2.60799  
Inj Date : 16-SEP-2009 09:47  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C2.60799  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\8315\_A&F.m  
Meth Date : 16-Sep-2009 10:44 smithdn Quant Type: ESTD  
Cal Date : 16-SEP-2009 09:47 Cal File: 1I16M3.d  
Als bottle: 1 Calibration Sample, Level: 2  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
1 Formaldehyde	2.916	2.916	0.000	30105	1.25000	1.25	
2 Acetaldehyde	3.916	3.916	0.000	11990	1.25000	1.21	

CLL

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\1I16M4.d  
Lab Smp Id: C3.60799 Client Smp ID: C3.60799  
Inj Date : 16-SEP-2009 09:59  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C3.60799  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\8315\_A&F.m  
Meth Date : 16-Sep-2009 10:44 smithdn Quant Type: ESTD  
Cal Date : 16-SEP-2009 09:59 Cal File: 1I16M4.d  
Als bottle: 1 Calibration Sample, Level: 3  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	AMOUNTS						
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
1 Formaldehyde	2.916	2.916	0.000	52981	2.50000	2.50	
2 Acetaldehyde	3.916	3.916	0.000	23102	2.50000	2.38	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\1I16M5.d  
Lab Smp Id: C4.60799 Client Smp ID: C4.60799  
Inj Date : 16-SEP-2009 10:11  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C4.60799  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\8315\_A&F.m  
Meth Date : 16-Sep-2009 10:44 smithdn Quant Type: ESTD  
Cal Date : 16-SEP-2009 10:11 Cal File: 1I16M5.d  
Als bottle: 1 Calibration Sample, Level: 4  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.900	2.900	0.000	252763	12.5000	12.5	
2 Acetaldehyde	3.900	3.900	0.000	121373	12.5000	12.5	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\1I16M6.d  
Lab Smp Id: C5.60799 Client Smp ID: C5.60799  
Inj Date : 16-SEP-2009 10:23  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C5.60799  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI169.b\8315\_A&F.m  
Meth Date : 16-Sep-2009 10:44 smithdn Quant Type: ESTD  
Cal Date : 16-SEP-2009 10:23 Cal File: 1I16M6.d  
Als bottle: 1 Calibration Sample, Level: 5  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALSG01

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.900	2.900	0.000	499298	25.0000	25.0	
2 Acetaldehyde	3.900	3.900	0.000	244939	25.0000	25.2(A)	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1 Analy Batch No.: 61260  
SDG No.: OCRI-18  
Instrument ID: LCM GC Column: LC-C18 ID:  Heated Purge: (Y/N) N  
Calibration Start Date: 09/22/2009 15:49 Calibration End Date: 09/22/2009 16:36 Calibration ID: 296

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-61260/5	1I22M9.d
Level 2	IC 640-61260/1	1I22M10.d
Level 3	IC 640-61260/2	1I22M11.d
Level 4	IC 640-61260/3	1I22M12.d
Level 5	IC 640-61260/4	1I22M13.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5						RT WINDOW	AVG RT
Formaldehyde	2.950	2.950	2.950	2.950	2.933						2.783 - 3.083	2.947
Acetaldehyde	3.983	3.983	3.983	3.983	3.983						3.833 - 4.133	3.983

FORM VI  
HPLC INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1 Analy Batch No.: 61260

SDG No.: OCRI-18

Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2009 15:49 Calibration End Date: 09/22/2009 16:36 Calibration ID: 296

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-61260/5	1I22M9.d
Level 2	IC 640-61260/1	1I22M10.d
Level 3	IC 640-61260/2	1I22M11.d
Level 4	IC 640-61260/3	1I22M12.d
Level 5	IC 640-61260/4	1I22M13.d

ANALYTE	RRF				CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
Formaldehyde	309692 ✓ 186528	238017	202470	182644	Lin	0	183468							0.9997		0.9900
Acetaldehyde	✓ 102956 102711	99074	100511	✓ 101502	Ave		✓ 101351					1.6	20.0			

✓  
cale check  
en

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
HPLC INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1 Analy Batch No.: 61260  
SDG No.: OCRI-18  
Instrument ID: LCM GC Column: LC-C18 ID: Heated Purge: (Y/N) N  
Calibration Start Date: 09/22/2009 15:49 Calibration End Date: 09/22/2009 16:36 Calibration ID: 296

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 640-61260/5	1I22M9.d
Level 2	IC 640-61260/1	1I22M10.d
Level 3	IC 640-61260/2	1I22M11.d
Level 4	IC 640-61260/3	1I22M12.d
Level 5	IC 640-61260/4	1I22M13.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Formaldehyde	Lin	✓ 154846	✓ 297521	506176	✓ 2283056	4663210	0.500	1.25	2.50	12.5	25.0
Acetaldehyde	Ave	✓ 51478	✓ 123842	251278	✓ 1268777	✓ 2567774	0.500	1.25	2.50	12.5	25.0

Curve Type Legend:

Ave = Average  
Lin = Linear

✓  
raw data checked  
ck

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\1I22M10.d  
Lab Smp Id: C2.61040 Client Smp ID: C2.61040  
Inj Date : 22-SEP-2009 16:01  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C2.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 13:47 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:01 Cal File: 1I22M10.d  
Als bottle: 1 Calibration Sample, Level: 2  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
1 Formaldehyde	2.950	2.950	0.000	297521	1.25000	1.25	
2 Acetaldehyde	3.983	3.983	0.000	123842	1.25000	1.22	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\1I22M11.d  
Lab Smp Id: C3.61040 Client Smp ID: C3.61040  
Inj Date : 22-SEP-2009 16:12  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C3.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 13:47 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:12 Cal File: 1I22M11.d  
Als bottle: 1 Calibration Sample, Level: 3  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	506176	2.50000	2.48	
2 Acetaldehyde	3.983	3.983	0.000	251278	2.50000	2.49	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\1I22M12.d  
Lab Smp Id: C4.61040 Client Smp ID: C4.61040  
Inj Date : 22-SEP-2009 16:24  
Operator : DS Inst ID: TLCMUV1.i  
Smp Info : C4.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 13:47 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:24 Cal File: 1I22M12.d  
Als bottle: 1 Calibration Sample, Level: 4  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	2283056	12.5000	12.5	
2 Acetaldehyde	3.983	3.983	0.000	1268777	12.5000	12.6	

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\1I22M13.d  
Lab Smp Id: C5.61040 Client Smp ID: C5.61040

Inj Date : 22-SEP-2009 16:36

Operator : DS

Inst ID: TLCMUV1.i

Smp Info : C5.61040

Misc Info : 8315A

Comment :

Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\8315\_A&F.m

Meth Date : 25-Sep-2009 13:47 rdriver Quant Type: ESTD

Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d

Als bottle: 1

Calibration Sample, Level: 5

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 831509J.sub

Target Version: 4.14

Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.933	2.933	0.000	4663210	25.0000	25.1(A)	
2 Acetaldehyde	3.983	3.983	0.000	2567774	25.0000	25.3(A)	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\1I22M9.d

Lab Smp Id: C1.61040 Client Smp ID: C1.61040

Inj Date : 22-SEP-2009 15:49

Operator : DS Inst ID: TLCMUV1.i

Smp Info : C1.61040

Misc Info : 8315A

Comment :

Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI229.b\8315\_A&F.m

Meth Date : 25-Sep-2009 13:47 rdriver Quant Type: ESTD

Cal Date : 22-SEP-2009 15:49 Cal File: 1I22M9.d

Als bottle: 1 Calibration Sample, Level: 1

Dil Factor: 1.00000

Integrator: Falcon

Compound Sublist: 831509J.sub

Target Version: 4.14

Processing Host: TALLM05A

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	154846	0.50000	0.500	
2 Acetaldehyde	3.983	3.983	0.000	51478	0.50000	0.500	

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61356/11 Calibration Date: 09/23/2009 16:58  
Instrument ID: LCM Calib Start Date: 09/22/2009 15:49  
GC Column: LC-C18 ID:  Calib End Date: 09/22/2009 16:36  
Lab File ID: 2I23M2.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	223870	204390		2.52	2.50	0.7	15.0
Acetaldehyde	Ave	101351	97395		2.40	2.50	-3.9	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61356/11 Calibration Date: 09/23/2009 16:58  
Instrument ID: LCM Calib Start Date: 09/22/2009 15:49  
GC Column: LC-C18 ID:  Calib End Date: 09/22/2009 16:36  
Lab File ID: 2I23M2.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	4.00	3.85	4.15

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\2I23M2.d  
Lab Smp Id: M3.61040 Client Smp ID: M3.61040  
Inj Date : 23-SEP-2009 16:58  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M3.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\8315\_A&F.m  
Meth Date : 24-Sep-2009 16:36 TLCMUV1.i Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	510976	2.50000	2.52	
2 Acetaldehyde	4.000	4.000	0.000	243487	2.50000	2.40	

Data File: 2I23M2.d

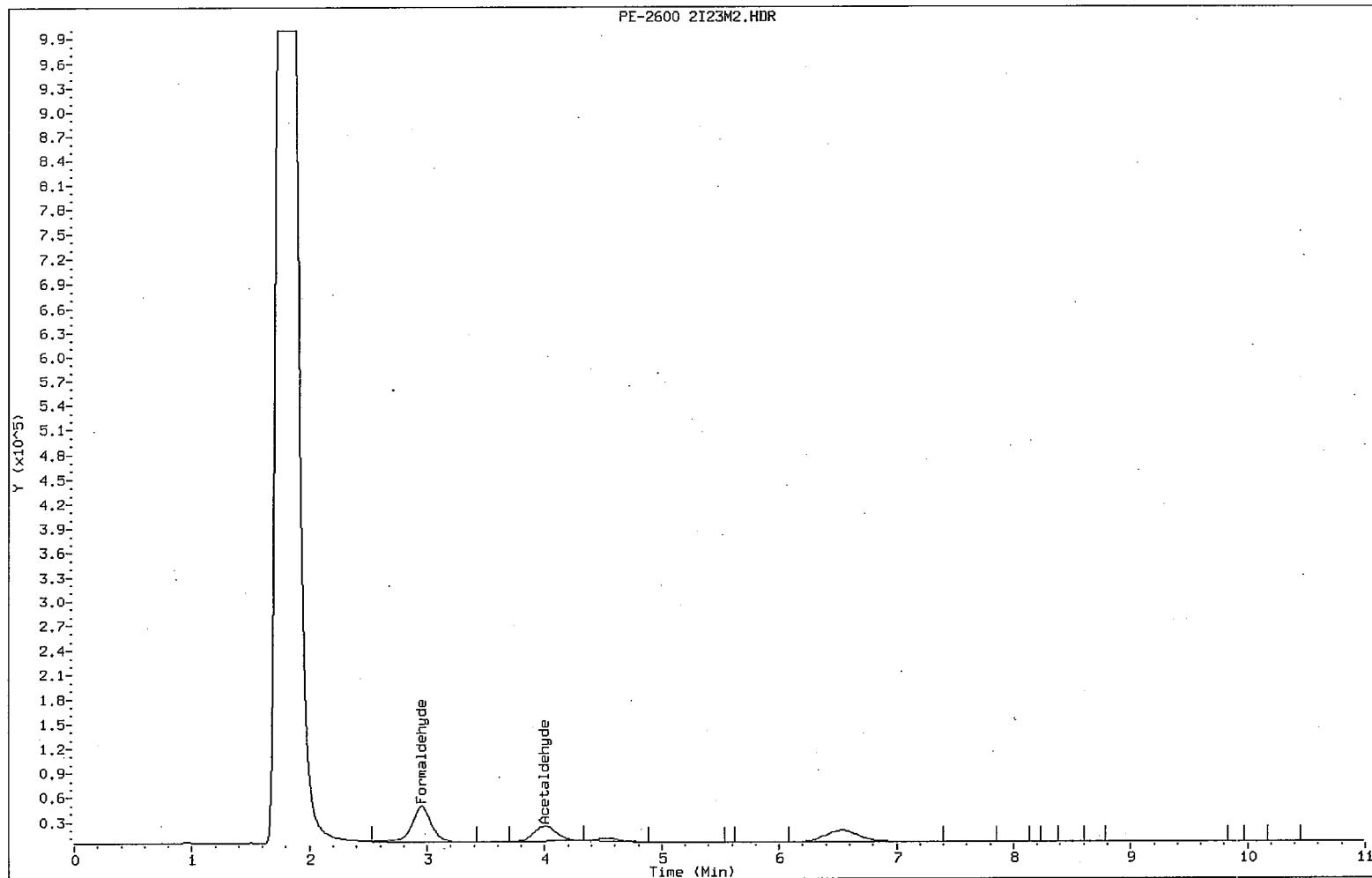
Date: 23-SEP-2009 16:58

Client ID: M3.61040

Instrument: TLCMUv1.i

Sample Info: M3.61040

Operator: RD



FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61356/4 Calibration Date: 09/23/2009 19:28  
Instrument ID: LCM Calib Start Date: 09/22/2009 15:49  
GC Column: LC-C18 ID:  Calib End Date: 09/22/2009 16:36  
Lab File ID: 2I23M13.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	223870	178996		11.9	12.5	-4.6	15.0
Acetaldehyde	Ave	101351	V 106527		13.1	12.5	5.1	15.0

*Calc check  
ca*

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61356/4 Calibration Date: 09/23/2009 19:28  
Instrument ID: LCM Calib Start Date: 09/22/2009 15:49  
GC Column: LC-C18 ID: Calib End Date: 09/22/2009 16:36  
Lab File ID: 2I23M13.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	4.00	3.85	4.15

*Ch  
Raw data  
check*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\2I23M13.d  
Lab Smp Id: CCVRT Client Smp ID: M4.61040  
Inj Date : 23-SEP-2009 19:28  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M4.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\8315\_A&F.m  
Meth Date : 29-Sep-2009 21:51 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	2237454	12.5000	11.9	
2 Acetaldehyde	4.000	4.000	0.000	1331587	12.5000	13.1	

$$RF = \frac{1331587}{12.5} = 106527$$

cu

$$Ant = \frac{1331587}{101351} = 13.1$$

Data File: 2I23M13.d

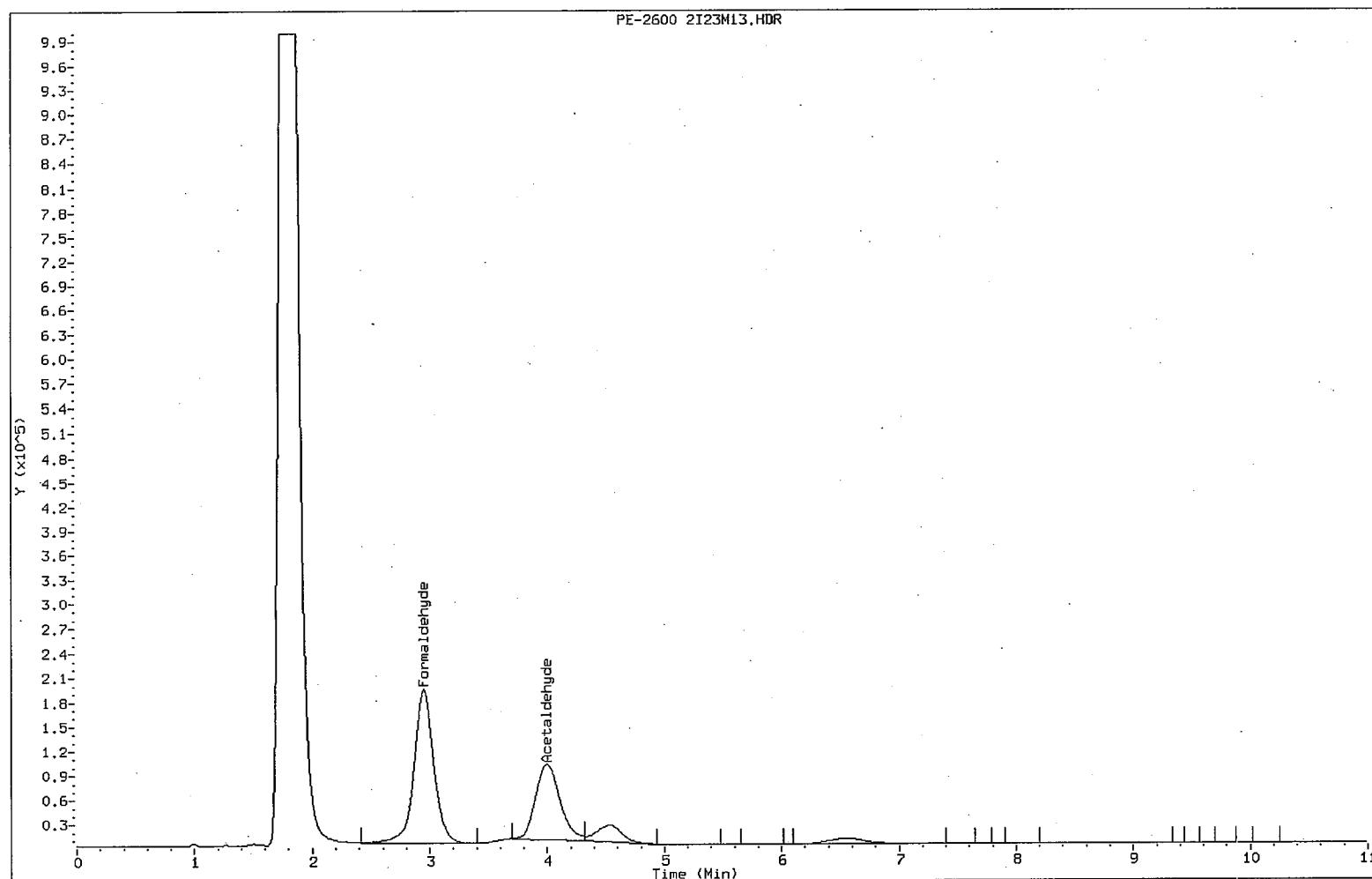
Date: 23-SEP-2009 19:28

Client ID: M4.61040

Instrument: TLCMUv1.i

Sample Info: M4.61040

Operator: RD



FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/1 Calibration Date: 09/24/2009 16:50  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID:  Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M23.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	23594	17342		✓ 2.58	2.50	3.1	15.0
Acetaldehyde	Ave	9714	7241		✓ 2.45	2.50	-1.9	15.0

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/1 Calibration Date: 09/24/2009 16:50  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID:  Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M23.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.97	2.80	3.10
Acetaldehyde	4.02	3.87	4.17

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M23.d  
Lab Smp Id: M3.61040 Client Smp ID: M3.61040  
Inj Date : 24-SEP-2009 16:50  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : M3.61040  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 09:51 TLCMUV1.i Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS		REVIEW CODE
					CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.966	2.966	0.000	521855	2.50000	2.58(a)	
2 Acetaldehyde	4.016	4.016	0.000	248535	2.50000	2.45(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/13 Calibration Date: 09/24/2009 19:11  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID: Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M35.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	23594	14884		✓ 12.1	12.5	-2.9	15.0
Acetaldehyde	Ave	9714	7252		13.4	12.5	6.8	15.0

CR

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/13 Calibration Date: 09/24/2009 19:11  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID: Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M35.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	✓ 2.95	2.80	3.10
Acetaldehyde	4.00	3.87	4.17

CH

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M35.d  
Lab Smp Id: M4.61040 Client Smp ID: M4.61040

Inj Date : 24-SEP-2009 19:11

Operator : RD Inst ID: TLCMUV1.i

Smp Info : M4.61040

Misc Info : 8315A

Comment :

Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m

Meth Date : 25-Sep-2009 09:51 TLCMUV1.i Quant Type: ESTD

Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d

Als bottle: 1 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Target Version: 4.14 Compound Sublist: 831509J.sub

Processing Host: TALLM05A

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	2276250	12.5000	12.1	
2 Acetaldehyde	4.000	4.000	0.000	1353580	12.5000	13.4	

FORM VII  
HPLC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/20 Calibration Date: 09/24/2009 20:34  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID: Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M42.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Formaldehyde	Lin	23594	16080		2.52	2.50	0.7	15.0
Acetaldehyde	Ave	9714	6824		2.63	2.50	5.3	15.0

CR

FORM VII  
HPLC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Lab Sample ID: CCVRT 640-61209/20 Calibration Date: 09/24/2009 20:34  
Instrument ID: LCM Calib Start Date: 09/16/2009 09:36  
GC Column: LC-C18 ID:  Calib End Date: 09/16/2009 10:23  
Lab File ID: 2I23M42.d

Analyte	RT	RT WINDOW	
		TO	FROM
Formaldehyde	2.95	2.80	3.10
Acetaldehyde	4.02	3.87	4.17

W

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315

Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M42.d  
Lab Smp Id: M3.61040 Client Smp ID: M3.61040

Inj Date : 24-SEP-2009 20:34

Operator : RD Inst ID: TLCMUV1.i

Smp Info : M3.61040

Misc Info : 8315A

Comment :

Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m

Meth Date : 25-Sep-2009 09:51 TLCMUV1.i Quant Type: ESTD

Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d

Als bottle: 1 Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: Falcon

Target Version: 4.14

Processing Host: TALLM05A Compound Sublist: 831509J.sub

Compounds	AMOUNTS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/ml)	ON-CAL (ug/ml)	
1 Formaldehyde	2.950	2.950	0.000	510894	2.50000	2.52	
2 Acetaldehyde	4.016	4.016	0.000	266927	2.50000	2.63	

CR

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID:  Lab Sample ID: MB 640-60973/1-A  
Matrix: Water Lab File ID: 2I23M3.d  
Analysis Method: 8315A Date Collected:   
Extract. Method: 8315\_W\_Prep Date Extracted: 09/20/2009 22:08  
Sample wt/vol: 100 (mL) Date Analyzed: 09/23/2009 17:30  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61356 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	11.9	J	50	5.0
75-07-0	Acetaldehyde	ND		100	10

*CH*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\2I23M3.d  
Lab Smp Id: MB 640-60973/1A Client Smp ID: 60973MB  
Inj Date : 23-SEP-2009 17:30  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : MB 640-60973/1A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\8315\_A&F.m  
Meth Date : 24-Sep-2009 16:36 TLCMUV1.i Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL ( ug/L)	
1 Formaldehyde	2.950	2.950	0.000	103450	0.29677	11.9(a)	
2 Acetaldehyde				Compound Not Detected.			

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

$$\text{MBIC} = \frac{296 \text{ ug/ml} \times 4 \text{ mL}}{1 \text{ L}}$$

$$= 11.84 \text{ ug/L}$$

Ch

Data File: 2I23M3.d

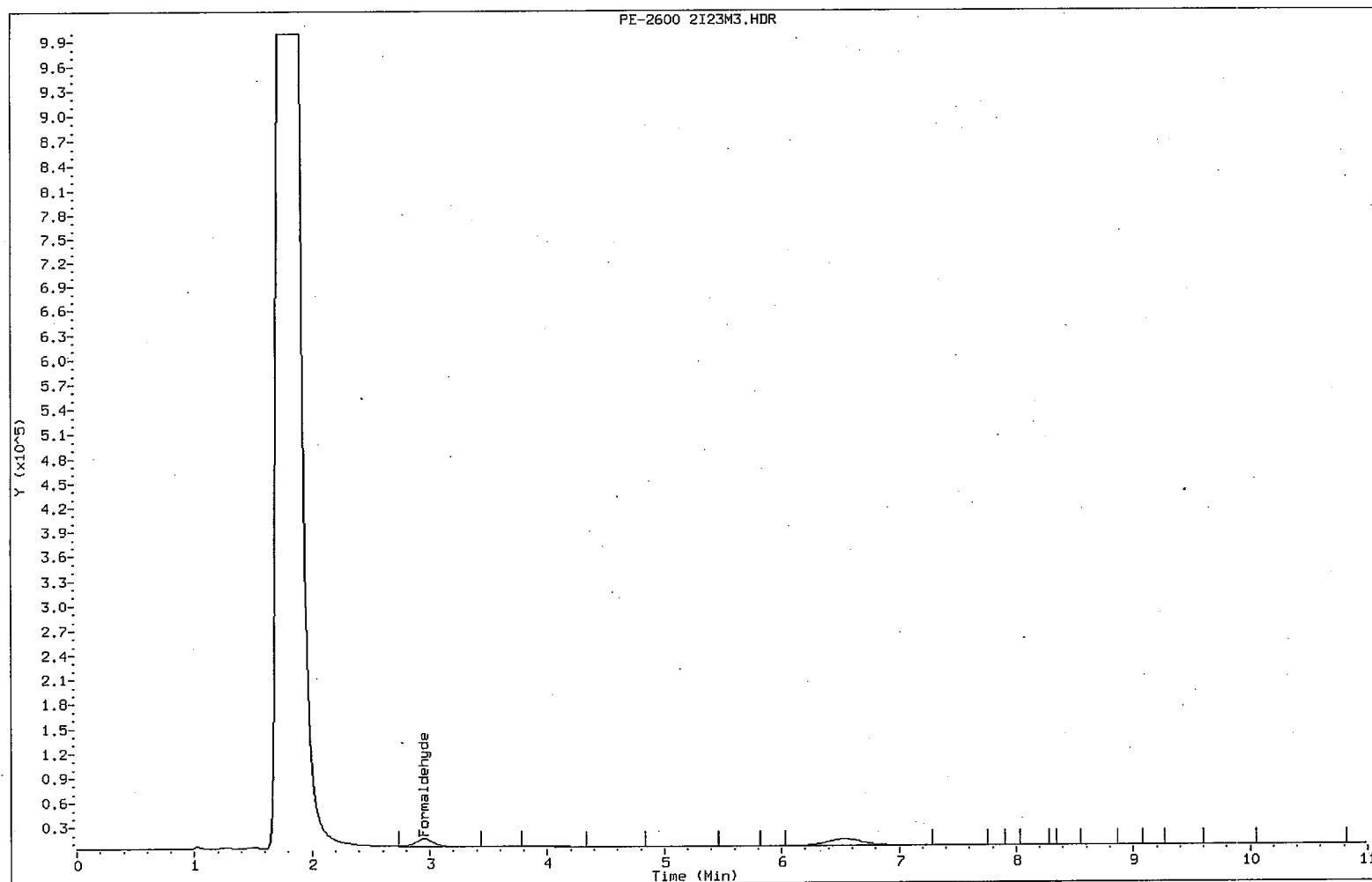
Date: 23-SEP-2009 17:30

Client ID: 60973MB

Instrument: TLCMUv1.i

Sample Info: MB 640-60973/1A

Operator: RD



FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID:  Lab Sample ID: MB 640-61125/1-A  
Matrix: Solid Lab File ID: 2I23M24.d  
Analysis Method: 8315A Date Collected:   
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.0(g) Date Analyzed: 09/24/2009 17:02  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	ND		100	78
75-07-0	Acetaldehyde	ND		200	29

*CM*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M24.d  
Lab Smp Id: MB 640-61125/1A Client Smp ID: 61125MB  
Inj Date : 24-SEP-2009 17:02  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : MB 640-61125/1A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	====	=====	=====	=====	=====	=====	=====
2 Acetaldehyde					Compound Not Detected.	Compound Not Detected.	

ND

CH

Data File: 2I23M24.d

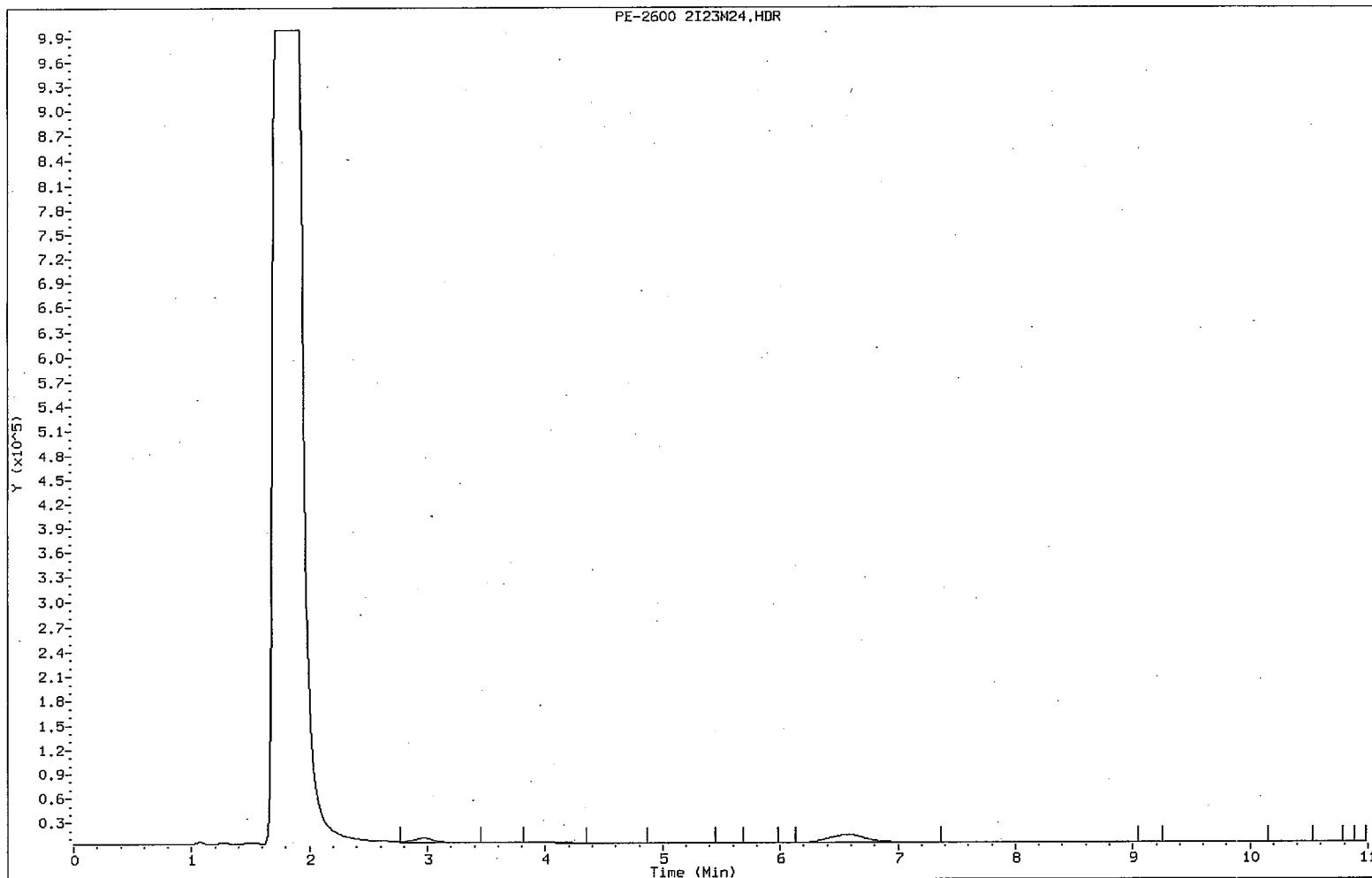
Date: 24-SEP-2009 17:02

Client ID: 61125MB

Instrument: TLCMUV1.i

Sample Info: MB 640-61125/1A

Operator: RD



FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID:  Lab Sample ID: LCS 640-60973/2-A  
Matrix: Water Lab File ID: 2I23M4.d  
Analysis Method: 8315A Date Collected:   
Extract. Method: 8315\_W\_Prep Date Extracted: 09/20/2009 22:08  
Sample wt/vol: 100 (mL) Date Analyzed: 09/23/2009 17:42  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture:  GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61356 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	172		50	5.0
75-07-0	Acetaldehyde	153		100	10

*Un*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\2I23M4.d  
Lab Smp Id: LCS 640-60973/2A Client Smp ID: 60973MBLCS  
Inj Date : 23-SEP-2009 17:42  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCS 640-60973/2A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\2MI239.b\8315\_A&F.m  
Meth Date : 24-Sep-2009 16:36 TLCMUV1.i Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 QC Sample: LCS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Vo \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Final Volume
Vo	100.000	Sample Volume
A	1000.000	mL to L conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/L)	
1 Formaldehyde	2.950	2.950	0.000	836426	4.29188	172	
2 Acetaldehyde	4.000	4.000	0.000	387135	3.81975	153	✓

Act 387135 = 3.8  
101351

FORM. I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
 SDG No.: OCRI-18  
 Client Sample ID:  Lab Sample ID: LCSD 640-61125/3-A  
 Matrix: Solid Lab File ID: 2I23M26.d  
 Analysis Method: 8315A Date Collected:   
 Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
 Sample wt/vol: 20.0 (g) Date Analyzed: 09/24/2009 17:25  
 Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
 Injection Volume: 10 (uL) Level: (low/med) Low  
 % Moisture:  GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 682		100	78
75-07-0	Acetaldehyde	✓ 629		200	29

*Calc  
check  
CR*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M26.d  
Lab Smp Id: LCSD 640-61125/3A Client Smp ID: 61125MBLCSD  
Inj Date : 24-SEP-2009 17:25  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : LCSD 640-61125/3A  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 QC Sample: LCSD  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
					ON-COLUMN (ug/ml)	FINAL (ug/Kg)	
1 Formaldehyde	2.966	2.950	0.016	674798	3.41092	682	
2 Acetaldehyde	4.016	4.016	0.000	318893	3.14643	629	

— See Regression on Excel for Formaldehyde  
(3.9 ug/ml)

$$\text{Actual } \frac{318893}{101351} = 3.1 = \frac{31 \times 4}{.02} = 620$$

FORM I  
HPLC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Client Sample ID: OC-SB-473-0.0/1.0-XXX MS Lab Sample ID: 360-24686-7 MS  
Matrix: Solid Lab File ID: 2I23M33.d  
Analysis Method: 8315A Date Collected: 09/18/2009 09:40  
Extract. Method: 8315\_S\_Prep Date Extracted: 09/24/2009 07:35  
Sample wt/vol: 20.3(g) Date Analyzed: 09/24/2009 18:48  
Con. Extract Vol.: 4.0 (mL) Dilution Factor: 1  
Injection Volume: 10 (uL) Level: (low/med) Low  
% Moisture: 18.4 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 61209 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-00-0	Formaldehyde	✓ 425		120	94
75-07-0	Acetaldehyde	123	J	240	35

*Cr*

TestAmerica Tallahassee

Semivolatile REPORT SW-846 Method 8315  
Data file : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\2I23M33.d  
Lab Smp Id: 360-24686F7B MS Client Smp ID: 24686-7MS ✓  
Inj Date : 24-SEP-2009 18:48  
Operator : RD Inst ID: TLCMUV1.i  
Smp Info : 360-24686-F-7-B MS  
Misc Info : 8315A  
Comment :  
Method : \\Talsvr05\chem\LC\TLCMUV1.i\1MI249.b\8315\_A&F.m  
Meth Date : 25-Sep-2009 10:46 rdriver Quant Type: ESTD  
Cal Date : 22-SEP-2009 16:36 Cal File: 1I22M13.d  
Als bottle: 1 QC Sample: MS  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 831509J.sub  
Target Version: 4.14  
Processing Host: TALLM05A

Concentration Formula: Amt \* DF \* Vt/Ws \* 100/(100 - M) \* A \* E \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	4.000	Volume of final extract
Ws	20.000	Weight of sample extract
M	0.00000	% Moisture
A	1000.000	g to kg conversion
E	1.000	ug to mg conversion (1 if no conversion)
Cpnd Variable		Local Compound Variable

Compounds	CONCENTRATIONS						REVIEW CODE	
	ON-COLUMN			FINAL				
	RT	EXP RT	DLT RT	RESPONSE	(ug/ml)	(ug/Kg)		
1 Formaldehyde	2.966	2.950	0.016	371927	1.76011	352		
2 Acetaldehyde	4.016	4.016	0.000	51661	0.50972	102(aR)		

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).  
R - Spike/Surrogate failed recovery limits.

Form based on Excel  
Regression = 2.3 g/ml

Acet =  $\frac{51661}{101357} = .509$  ✓

Form based on  
RF from nearest  
calib point

$\frac{371927}{238016} = 1.56$

## HPLC ANALYSIS RUN LOG

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Instrument ID: LCM

Start Date: 09/16/2009 09:36

Analysis Batch Number: 60997

End Date: 09/16/2009 19:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 640-60997/11		09/16/2009 09:36	1	1I16M2.d	LC-C18
IC 640-60997/14		09/16/2009 09:47	1	1I16M3.d	LC-C18
IC 640-60997/15		09/16/2009 09:59	1	1I16M4.d	LC-C18
IC 640-60997/16		09/16/2009 10:11	1	1I16M5.d	LC-C18
IC 640-60997/17		09/16/2009 10:23	1	1I16M6.d	LC-C18
ZZZZZ		09/16/2009 10:52	1		LC-C18
ZZZZZ		09/16/2009 11:04	1		LC-C18
ZZZZZ		09/16/2009 11:15	1		LC-C18
ZZZZZ		09/16/2009 11:27	1		LC-C18
ZZZZZ		09/16/2009 11:39	1		LC-C18
ZZZZZ		09/16/2009 11:51	1		LC-C18
ZZZZZ		09/16/2009 12:03	1		LC-C18
ZZZZZ		09/16/2009 12:14	1		LC-C18
ZZZZZ		09/16/2009 12:26	1		LC-C18
ZZZZZ		09/16/2009 12:38	1		LC-C18
ZZZZZ		09/16/2009 12:50	1		LC-C18
ZZZZZ		09/16/2009 13:02	1		LC-C18
ZZZZZ		09/16/2009 13:13	1		LC-C18
ZZZZZ		09/16/2009 13:25	1		LC-C18
ZZZZZ		09/16/2009 13:37	1		LC-C18
ZZZZZ		09/16/2009 13:49	1		LC-C18
ZZZZZ		09/16/2009 14:01	1		LC-C18
ZZZZZ		09/16/2009 14:12	1		LC-C18
ZZZZZ		09/16/2009 14:24	1		LC-C18
ZZZZZ		09/16/2009 14:36	1		LC-C18
CCVRT 640-60997/13		09/16/2009 14:48	1		LC-C18
ZZZZZ		09/16/2009 15:08	1		LC-C18
ZZZZZ		09/16/2009 15:20	1		LC-C18
ZZZZZ		09/16/2009 15:32	1		LC-C18
ZZZZZ		09/16/2009 15:44	1		LC-C18
ZZZZZ		09/16/2009 15:55	1		LC-C18
ZZZZZ		09/16/2009 16:07	1		LC-C18
ZZZZZ		09/16/2009 16:19	1		LC-C18
ZZZZZ		09/16/2009 16:31	1		LC-C18
ZZZZZ		09/16/2009 16:43	1		LC-C18
ZZZZZ		09/16/2009 16:54	1		LC-C18
ZZZZZ		09/16/2009 17:06	1		LC-C18
ZZZZZ		09/16/2009 17:18	1		LC-C18
ZZZZZ		09/16/2009 17:30	1		LC-C18
ZZZZZ		09/16/2009 17:42	1		LC-C18
ZZZZZ		09/16/2009 17:53	1		LC-C18
CCVRT 640-60997/42		09/16/2009 18:05	1		LC-C18
ZZZZZ		09/16/2009 18:17	1		LC-C18
ZZZZZ		09/16/2009 18:29	1		LC-C18
ZZZZZ		09/16/2009 18:41	1		LC-C18

## HPLC ANALYSIS RUN LOG

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Instrument ID: LCM

Start Date: 09/16/2009 09:36

Analysis Batch Number: 60997

End Date: 09/16/2009 19:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/16/2009 18:52	1		LC-C18
ZZZZZ		09/16/2009 19:04	1		LC-C18
ZZZZZ		09/16/2009 19:16	1		LC-C18
CCVRT 640-60997/49		09/16/2009 19:28	1		LC-C18

## HPLC ANALYSIS RUN LOG

Lab Name: TestAmerica Tallahassee Job No.: 360-24686-1  
SDG No.: OCRI-18  
Instrument ID: LCM Start Date: 09/24/2009 16:50  
Analysis Batch Number: 61209 End Date: 09/24/2009 20:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 640-61209/1		09/24/2009 16:50	1	2I23M23.d	LC-C18
MB 640-61125/1-A		09/24/2009 17:02	1	2I23M24.d	LC-C18
LCS 640-61125/2-A		09/24/2009 17:13	1	2I23M25.d	LC-C18
LCSD 640-61125/3-A		09/24/2009 17:25	1	2I23M26.d	LC-C18
360-24686-2	OC-SB-435-0.0/1.0-XXX	09/24/2009 17:37	1	2I23M27.d	LC-C18
360-24686-3	OC-SB-435-11/15-XXX	09/24/2009 17:49	1	2I23M28.d	LC-C18
360-24686-4	OC-SB-435-6.0/10-XXX	09/24/2009 18:01	1	2I23M29.d	LC-C18
360-24686-5	OC-SB-453-0.0/1.0-XXX	09/24/2009 18:12	1	2I23M30.d	LC-C18
360-24686-6	OC-SB-453-1.0/6.0-XXX	09/24/2009 18:24	1	2I23M31.d	LC-C18
360-24686-7	OC-SB-473-0.0/1.0-XXX	09/24/2009 18:36	1	2I23M32.d	LC-C18
360-24686-7 MS	OC-SB-473-0.0/1.0-XXX MS	09/24/2009 18:48	1	2I23M33.d	LC-C18
360-24686-7 MSD	OC-SB-473-0.0/1.0-XXX MSD	09/24/2009 19:00	1	2I23M34.d	LC-C18
CCVRT 640-61209/13		09/24/2009 19:11	1	2I23M35.d	LC-C18
360-24686-8	OC-SB-473-13/15-XXX	09/24/2009 19:23	1	2I23M36.d	LC-C18
360-24686-9	OC-SB-473-4.0/6.0-XXX	09/24/2009 19:35	1	2I23M37.d	LC-C18
360-24686-10	OC-SS-453-0.0/1.0-XXX	09/24/2009 19:47	1	2I23M38.d	LC-C18
360-24686-11	OC-SS-457-0.0/1.0-XXX	09/24/2009 19:59	1	2I23M39.d	LC-C18
360-24686-13	OC-SS-456-0.0/1.0-XXX	09/24/2009 20:10	1	2I23M40.d	LC-C18
360-24686-15	OC-SS-459-0.0/1.0-XXX	09/24/2009 20:22	1	2I23M41.d	LC-C18
CCVRT 640-61209/20		09/24/2009 20:34	1	2I23M42.d	LC-C18

## HPLC ANALYSIS RUN LOG

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Instrument ID: LCM

Start Date: 09/22/2009 15:49

Analysis Batch Number: 61260

End Date: 09/22/2009 16:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 640-61260/5		09/22/2009 15:49	1	1I22M9.d	LC-C18
IC 640-61260/1		09/22/2009 16:01	1	1I22M10.d	LC-C18
IC 640-61260/2		09/22/2009 16:12	1	1I22M11.d	LC-C18
IC 640-61260/3		09/22/2009 16:24	1	1I22M12.d	LC-C18
IC 640-61260/4		09/22/2009 16:36	1	1I22M13.d	LC-C18

## HPLC ANALYSIS RUN LOG

Lab Name: TestAmerica Tallahassee

Job No.: 360-24686-1

SDG No.: OCRI-18

Instrument ID: LCM

Start Date: 09/23/2009 16:58

Analysis Batch Number: 61356

End Date: 09/23/2009 21:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 640-61356/11		09/23/2009 16:58	1	2I23M2.d	LC-C18
MB 640-60973/1-A		09/23/2009 17:30	1	2I23M3.d	LC-C18
LCS 640-60973/2-A		09/23/2009 17:42	1	2I23M4.d	LC-C18
LCSD 640-60973/3-A		09/23/2009 17:53	1	2I23M5.d	LC-C18
360-24686-20	OC-EBK-012	09/23/2009 18:05	1	2I23M6.d	LC-C18
ZZZZZ		09/23/2009 18:17	1		LC-C18
ZZZZZ		09/23/2009 18:29	1		LC-C18
ZZZZZ		09/23/2009 18:41	1		LC-C18
ZZZZZ		09/23/2009 18:52	1		LC-C18
ZZZZZ		09/23/2009 19:04	1		LC-C18
ZZZZZ		09/23/2009 19:16	1		LC-C18
CCVRT 640-61356/4		09/23/2009 19:28	1	2I23M13.d	LC-C18
ZZZZZ		09/23/2009 19:40	1		LC-C18
ZZZZZ		09/23/2009 19:51	1		LC-C18
ZZZZZ		09/23/2009 20:03	1		LC-C18
ZZZZZ		09/23/2009 20:15	1		LC-C18
ZZZZZ		09/23/2009 20:27	1		LC-C18
ZZZZZ		09/23/2009 20:39	1		LC-C18
ZZZZZ		09/23/2009 20:50	1		LC-C18
CCVRT 640-61356/13		09/23/2009 21:02	1		LC-C18

## Organic Prep Worksheet

Batch Number: 640-60973

Method: 8315\_W\_Prep

Analyst: Driver, Robert

Date Open: Sep 20 2009 10:08PM

Batch End: Sep 20 2009 11:00PM

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	Final pH	LCS8315SPK_00010
MB~640-60973/1		8315_W_Prep, 8315A		100 mL	4.0 mL	5	
LCS~640-60973/2		8315_W_Prep, 8315A		100 mL	4.0 mL	5	150 uL
LCSD~640-60973/3		8315_W_Prep, 8315A		100 mL	4.0 mL	5	150 uL
360-24686-J-20	OC-EBK-012	8315_W_Prep, 8315A	T	100 mL	4.0 mL	5	

Acetate Buffer Lot #: LCR1-38-1

Acetonitrile Lot#: A16815: MeOH H06E30

DNPH Lot#: LCR1-38-6.

HPLC H2O Lot#: 092009

Person's name who witnessed reagent drop: RD

Saturated NaCl Lot#: LCR1-40-3

## Organic Prep Worksheet

Batch Number: 640-60973

Method: 8315\_W\_Prep

Analyst: Driver, Robert

Date Open: Sep 20 2009 10:08PM

Batch End: Sep 20 2009 11:00PM

Comments

Lab ID	Client ID	Method Chain	Basis	Analysis comment	Comments
MB~640-60973/1		8315_W_Prep, 8315A			
LCS~640-60973/2		8315_W_Prep, 8315A			
LCSD~640-60973/3		8315_W_Prep, 8315A			
360-24686-J-20	OC-EBK-012	8315_W_Prep, 8315A	T		

Batch Comment: 8315A Formald. & Acetaldehyde

## Organic Prep Worksheet

Batch Number: 640-61125

Method: 8315\_S\_Prep

Analyst: Smith, Daniel N

Date Open: Sep 24 2009 7:35AM

Batch End: Sep 24 2009 2:20PM

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	Final pH	LCS8315SPK_00010
MB~640-61125/1		8315_S_Prep, 8315A		20.0 g	4.0 mL	5	
LCS~640-61125/2		8315_S_Prep, 8315A		20.0 g	4.0 mL	5	150 uL
LCSD~640-61125/3		8315_S_Prep, 8315A		20.0 g	4.0 mL	5	150 uL
360-24686-F-2	OC-SB-435-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.0 g	4.0 mL	5	
360-24686-F-3	OC-SB-435-11/15-XXX	8315_S_Prep, 8315A	T	20.3 g	4.0 mL	5	
360-24686-F-4	OC-SB-435-6.0/10-XX X	8315_S_Prep, 8315A	T	20.6 g	4.0 mL	5	
360-24686-F-5	OC-SB-453-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.1 g	4.0 mL	5	
360-24686-F-6	OC-SB-453-1.0/6.0-XX X	8315_S_Prep, 8315A	T	20.2 g	4.0 mL	5	
360-24686-F-7	OC-SB-473-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.1 g	4.0 mL	5	
360-24686-F-7~MS		8315_S_Prep, 8315A	T	20.3 g	4.0 mL	5	150 uL
360-24686-F-7~MS D		8315_S_Prep, 8315A	T	20.2 g	4.0 mL	5	150 uL
360-24686-G-8	OC-SB-473-13/15-XXX	8315_S_Prep, 8315A	T	20.3 g	4.0 mL	5	
360-24686-F-9	OC-SB-473-4.0/6.0-XX X	8315_S_Prep, 8315A	T	20.2 g	4.0 mL	5	
360-24686-F-10	OC-SS-453-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.2 g	4.0 mL	5	
360-24686-F-11	OC-SS-457-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.2 g	4.0 mL	5	
360-24686-F-13	OC-SS-456-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.0 g	4.0 mL	5	
360-24686-F-15	OC-SS-459-0.0/1.0-XX X	8315_S_Prep, 8315A	T	20.1 g	4.0 mL	5	

Acetate Buffer Lot #: LCR1-38-1

Acetonitrile Lot#: A16815; MeOH H06E30

DNPH Lot#: LCR1-38-6

HPLC 8315 Soil Buffer Lot#: 092409A

HPLC H2O Lot#: 092409

Saturated NaCl Lot#: LCR1-40-3

Person's name who witnessed reagent drop: DS

## Organic Prep Worksheet

Batch Number: 640-61125

Method: 8315\_S\_Prep

Analyst: Smith, Daniel N

Date Open: Sep 24 2009 7:35AM

Batch End: Sep 24 2009 2:20PM

Comments

Lab ID	Client ID	Method Chain	Basis	Analysis comment	Comments
MB~640-61125/1		8315_S_Prep, 8315A			
LCS~640-61125/2		8315_S_Prep, 8315A			
LCSD~640-61125/3		8315_S_Prep, 8315A			
360-24686-F-2	OC-SB-435-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-3	OC-SB-435-11/15-XXX	8315_S_Prep, 8315A	T		
360-24686-F-4	OC-SB-435-6.0/10-XX	8315_S_Prep, X 8315A	T		
360-24686-F-5	OC-SB-453-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-6	OC-SB-453-1.0/6.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-7	OC-SB-473-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-7~MS	D	8315_S_Prep, 8315A	T		
360-24686-F-7~MS	OC-SB-473-13/15-XXX	8315_S_Prep, 8315A	T		
360-24686-F-9	OC-SB-473-4.0/6.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-10	OC-SS-453-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-11	OC-SS-457-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-13	OC-SS-456-0.0/1.0-XX	8315_S_Prep, X 8315A	T		
360-24686-F-15	OC-SS-459-0.0/1.0-XX	8315_S_Prep, X 8315A	T		

Batch Comment:

8315A